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THE
 AGRICULTURAL
 AND
 OTHER RESOURCES
 OF
 CALIFORNIA.

COMPRISING TWENTY YEARS OF PROGRESS; A DESCRIPTION OF THE PRINCIPAL VALLEYS OF THE STATE; ITS GENIAL CLIMATE AND WIDE RANGE OF PRODUCTION; HOW LANDS ARE TO BE OBTAINED, AND WHERE THE IMMIGRANT MAY FIND THEM; THE LANDS OF THE CENTRAL PACIFIC RAILROAD COMPANY; FRESH WATER TIDE LANDS; VARIOUS MECHANICAL AND MANUFACTURING ESTABLISHMENTS; THE CALIFORNIA PACIFIC R. R. CO.; SOUTHERN CALIFORNIA; RECENT MINERAL DISCOVERIES; SAN FRANCISCO; VALLEJO, &C.

By TITUS FEY CRONISE,

AUTHOR OF THE "NATURAL WEALTH OF CALIFORNIA."

WITH TWENTY-ONE ILLUSTRATIONS.



A. ROMAN & CO., SAN FRANCISCO.

BRAINERD & WAITE, 266 RIVER STREET, TROY, N. Y.

1870.

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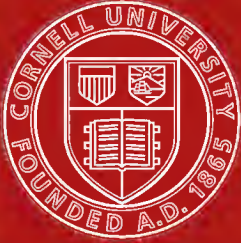
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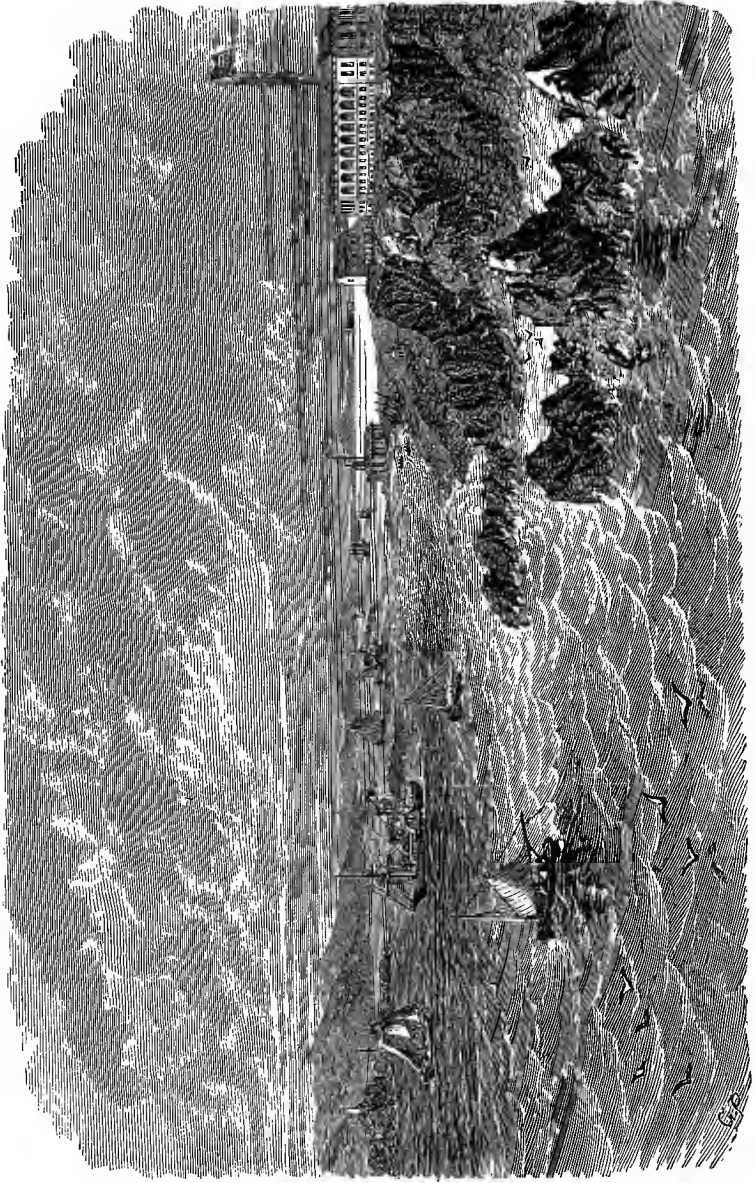
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GOLDEN GATE.

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Agricultural and other Resources of California.

CHAPTER I.

California at first Supposed to be a Desert. Damaging effect of this Opinion. Ignorance of its Resources and early Obstacles to Success: Fallacies Corrected. Unexpected Capacities of the Soil and Climate. Other Evils now happily Averted. Progress made in the Right Direction. Need for Reliable Information. Geographical Position. Area. Varieties of Land. Chorography of the State. Its System of Mountains.

CALIFORNIA AT FIRST SUPPOSED TO BE A DESERT—DAMAGING EFFECT OF THIS ERRONEOUS OPINION.

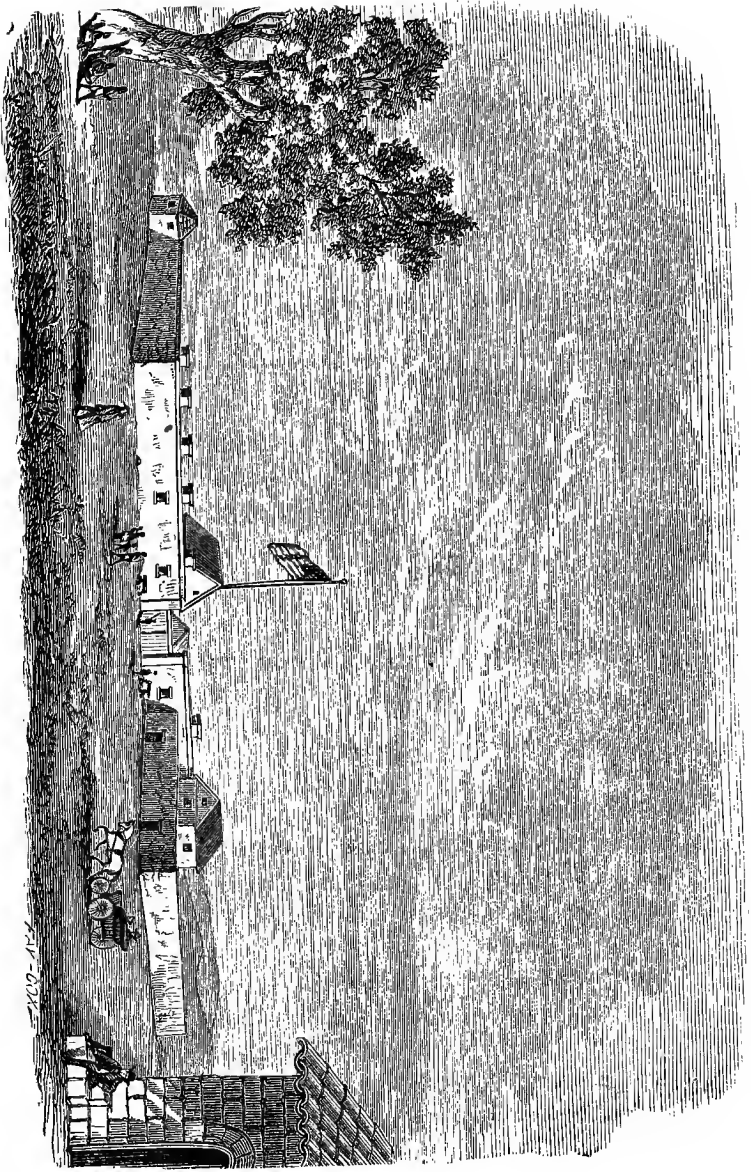
It is now just twenty years since the discovery of gold was made in California. During the first eight or ten years following that event, the greater portion of the inhabitants were engaged in mining, a business that proved so remunerative and enticing, that little attention was, meantime, paid to any other interest or calling. Searching after and gathering gold was with the masses the sole, all absorbing, pursuit. For this alone they had come to California, having absented themselves temporarily from their homes for the purpose.

It formed no part of their plan to settle in the country, to acquaint themselves with its character, or aid in the development of its more permanent resources, concerning which they were alike ignorant and careless. The most of their number saw little of the State, except the mining regions, generally the least valuable and inviting portion of it; and left, knowing scarcely any more about its varied forms of wealth or the capacities of the soil than if they had never been here at all. So far, however, as these early adventurers had formed any opinion about the country, it was, as a general thing, unfavorable; the most of them leaving under the impression that it was, with some unimportant exceptions, a mere

desert. It was known to all that there were a few fertile spots, such as those selected for the sites of the old Missions, and certain small valleys where fruits and grain could be grown with the aid of careful culture and irrigation; but, beyond this, it was not supposed that any considerable portion of the country was adapted to agricultural pursuits. How erroneous these opinions were is now well enough known; but how damaging their wide dissemination may have proved, is not generally so well understood. Scattered far and wide by those who would naturally be considered good authority, and propagated at a time when it was desirable that a larger proportion of the population should turn their attention to the cultivation of the soil, and when special encouragement should have been given to an immigration of farmers, they doubtless did much to deter that particular class from coming here, besides tending otherwise to seriously prejudice the best interests of the State. The only way left to correct these mistaken notions was to practically disprove them, a work that has since been so effectually accomplished, that California is to-day everywhere known as the first fruit growing, and according to its population, the largest grain exporting country in the world, the fame of its wheat fields almost out-rivaling that of its gold mines.

IGNORANCE OF ITS RESOURCES AND EARLY OBSTACLES TO SUCCESS.

Gradually as our people came to understand the peculiarities of the soil and climate, and to get familiarized with the new and strange circumstances under which they found themselves placed, the impediments in the way of successful farming and kindred pursuits disappeared. Many of their first efforts, from misapprehension as to the proper time of planting, imperfect culture, and other mistakes, now easily avoidable, resulted in total or partial failure. Not all at once, did even the most laborious and observant attain success. Little by little and through varied experiment and persevering effort was this end achieved. First the seasons had to be studied and the most suitable times for plowing and planting ascertained. Then the adaptability of various soils to particular crops and the best modes of tillage had to be determined; what varieties of grains, fruits and seeds were best suited to the soil and climate had to be found out, the utility of manures and the necessity for irrigation had to be tested. Safeguards against the depredations of squirrels and gophers and other



SUTTER'S FORT.

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unheard of pests had to be sought out and applied; all of which heavily taxed the energies and means of the new comer, who had everything to learn by actual trial, the experience of his predecessors in the country being so limited and imperfect as to mislead and embarrass rather than aid him in his perplexities.

After years of persevering toil and costly experiment, these obstacles and annoyances have been so far overcome that the husbandman finds them no longer formidable; the bountiful harvests of the past three years being proof how nearly they have at length been remedied or removed.

The history of farming in California, brief as it is, has been one of constant investigation and discovery. At first it was thought nothing could be grown and brought to maturity, unless planted on the richest interval land and carefully irrigated. Such was the belief of the native Californians, who never attempted to raise a crop or plant an orchard or vineyard, without a strict compliance with these conditions.

FALLACIES CORRECTED—UNEXPECTED CAPACITIES OF THE SOIL AND CLIMATE.

The American population after turning their attention to farming, were not long in discovering with their inquiring and eager enterprise that this was all a mistake; it being found that deep plowing and seasonable planting were all that was necessary to insure the perfection of the cereal crops, while trees and vines, after they had once become rooted, grew as well and yielded a better quality of fruit without, than with irrigation. Then, too, it soon became apparent that grain could be grown on the broad valleys and uplands as well, and in certain seasons even better, than on the rich alluvial bottoms. Farms were laid out and tilled with profit throughout the mining regions, once thought so barren, while gardens were successfully cultivated high up in the foot hills of the Sierra Nevada, where it was formerly believed grass could scarcely be made to grow.

Thus, gradually, the area of the arable lands became extended, until it had covered the broad plains and the foot-hills and reached even to the summits of the mountains. Vineyards, before confined to the rich soil of the valleys, began to climb the hillsides, and orchards and gardens were to be seen wherever the settler found a spot otherwise suited for a home; every year supplying additional evidence of the varied capacities of the climate and the won-

derful fertility of the soil. Further and further into new fields of fertility, the plow was pushed always to be followed by bountiful harvests, while the acclimation of one semi-tropical fruit after another established the broad range in the vegetable world, over which the productive energies of nature had been made to extend.

For a long time it was thought that the greater portion of southern California, though favored with a rich soil and a most desirable climate, was too dry to ever become a good farming country. This, too, now turns out to be wholly an error; recent experience proving this to be scarcely inferior to any other section of the State as a grain growing region; while for sheep and cattle raising, dairying and fruit growing and wine making the southern counties are fully equal, if not superior, to the northern. Late experiments tend to establish that with proper tillage and early sowing good crops can be made in ordinary years throughout that section; while the grassy hills and plains afford a pasturage not only abundant, but which by its rich and nutritious properties imparts a peculiarly fine flavor to the productions of the dairy.

The winter of 1867-8 having been unusually wet, rendering the cultivation of the valley lands in many places impracticable, farmers were obliged in such cases to resort to the sandy and gravelly plains previously neglected, or to retire with their plowing further back into the hills than ever before. Thus, extensive tracts of unpromising lands were planted, rather as an experiment than with the hope of making full crops. It turned out however, that these lands not only produced well, but gave more than an average yield. And thus it is we are constantly progressing, making useful discoveries, opening new avenues for agricultural and pastoral enterprise, and pushing it into new fields of production. Through these discoveries, for such the results of these experiments really are, the scope of our farming operations is being steadily enlarged and the capacities of the country more thoroughly ascertained; nor is it probable that with all our progress we have more than just entered this new world of discovery. What is to come from further explorations and trials; from an alteration of crops; the application of manures; the practice of irrigation; the construction of railroads; the necessities of a more diversified industry, and other novel conditions, not easily foreseen, yet likely to arise, may in part be conjectured from the experience of the past.

OTHER EVILS, NOW HAPPILY AVERTED.

But not alone through ignorance of its resources at home or their damaging misrepresentation abroad has the prosperity of California been marred and its progress retarded. In the uncertainty of titles to lands, and the costly and vexatious litigation growing out of the same; in the unsettled character of its population, made up for a long time mostly of adventurers, or, at best, mere sojourners, ignorant of its wants and indifferent to its welfare; in the incompetency and corruption of its legislators and other officials, intent only on enriching themselves while they burdened the State with debts for which it received no equivalent; in the imperfection of its laws and the laxity of their execution, leading to insecurity, violence and crime, and finally in the careless and extravagant habits of its people, and the low standard of public and private morality that generally prevailed, it has had to encounter the most deadly foe to its prosperity and the greatest obstruction to its progress. But as these, too, have mostly become things of the past, having been in a great measure corrected, we pass them over lightly; having alluded to them not because they are now pressing evils, but with a view to explain how it is that California, after so many years, has so few inhabitants, and how, with so many advantages and so much natural wealth, individual accumulations have been so small.

PROGRESS MADE IN THE RIGHT DIRECTION.

Without attempting more than a passing allusion to the moral, social and educational improvements of late years; it may be observed that California has during this time enjoyed the benefits of good government and the faithful administration of wisely framed laws; that it has reduced its public debt until it is no longer burdensome; has procured in great measure the settlement of conflicting land titles; acquired a more stable population; established a liberal, richly endowed and efficient system of public instruction; founded a multitude of churches, reformatory, literary and eleemosynary institutions, having evolved order from confusion and developed the elements of a high and pure civilization in as great profusion as any other people. What has been done in the way of manufactures, internal improvements and other matters pertaining to material progress, will be found noted elsewhere in these pages

California having, thus, largely corrected the abuses that at one time threatened to engulf it in ruin, and vindicated its good name from the odium that formerly attached to it, and having, moreover, begun to attract the attention of the rest of the world by its late shipments of breadstuffs, showing an ability to compete with the great grain growing districts of our own country and Europe, the present seems an auspicious moment for presenting to the public abroad a few leading facts touching its resources, and the inducements it offers for the investment of foreign capital and the immigration of every class to its shores; whether the object in coming be health, pleasure, or the active pursuits of business.

NEED FOR RELIABLE INFORMATION.

It is notorious that writers and speakers on California have too often indulged in a tone of exaggeration and sometimes even of fulsome praise. Sensible of the impolicy as well as injustice of such a course, everything like overstatement or unfairness has been avoided in this work, only such facts having been embodied therein as seemed well authenticated, practical and of general application; it being the design of the writer to make the information conveyed so entirely reliable that it might safely be adopted as a guide to the stranger, and serve as the basis of the most important business transactions.

Before entering upon a detailed description of the climate, agricultural resources, and other matters of economic interest in California, it may be well to present a few facts touching its

GEOGRAPHICAL POSITION, AREA, VARIETIES OF LAND, AND CHORO- GRAPHY,

Accompanying the same with a more extended outline of the latter, since upon that the country is largely dependent for its unique hydrography, as well as for certain climatic peculiarities and eccentricities, not otherwise easily explained.

The State of California lies between the 32^d degree and the 42^d degree of north latitude, being nearly 700 miles long and a little more than 200 miles wide. It is bounded on the north by Oregon, on the east by Nevada and Arizona, on the south by Lower California, and on the south-west and west by the Pacific Ocean. It embraces within its limits an area of about 160,000



DRAKE'S BAY IN 1558.

square miles. Of this territory about 40,000,000 acres of land may be set down as arable, and the greater portion of it being such as would, if cleared of timber and reclaimed from overflow, produce most kinds of fruit and fair crops of grain. This land, except where covered with dense forests or subject to overflow, produces nearly everywhere a growth of native grasses, the principal of which is a species called bunch grass from its growing only in scattered clumps and never forming a sod. It is found chiefly on the mountains, hills and open plains, the valleys abounding with clover and other varieties of grass. Large sections of the coast range are covered with wild oats, which grows alike in the depressions and upon the hills. Of the overflowed lands, being mostly what are denominated *tule* lands, there are 4,600,000 acres in the State. In some spots they produce a coarse grass, but are for the greater part covered with a growth of *tules*, and are incapable of being cultivated till reclaimed from overflow by dyking. The great body of these lands lies along the lower portions of the Sacramento and San Joaquin rivers.

Of the dense forest lands fit for tillage, but which cannot be plowed until cleared of timber, there are perhaps three or four million acres in the State, there being more than five times that quantity of heavily timbered land too rugged and rocky for the plow, and, as a general thing, too elevated to admit of fruits or grain arriving at maturity upon them.

Vast extents of forest lands lying along the lower slopes and the foothills of the Sierra Nevada Mountains, are sufficiently open to admit of being plowed by the removal or girdling of a few trees. All this land is admirably adapted to the culture of the vine and most kinds of fruits, while much of it could also be made to produce good grain. The entire area of California, excepting what is absolutely desert or included in the heavily timbered and more mountainous portions, may be considered grazing land. Much of the latter, however, as well as of the arable land is of inferior quality, consisting of a light gravelly soil yielding but little pasturage and incapable in even favorable seasons of growing an average crop of grain.

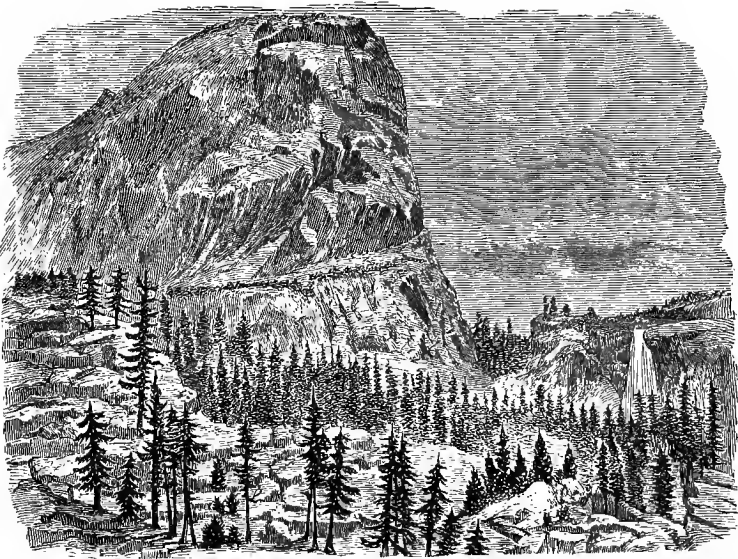
Occupying the south-eastern parts of the State and covering nearly one-fifth of its area is a vast extent of barren country comprising a portion of the Great Utah desert with the Mohave and Colorado deserts lying further south. With the exception of a few small valleys and fertile spots of limited dimensions the whole

of this region is hopelessly sterile, consisting of alkali flats, sage barrens, volcanic plains, and beds of drifting sand, sprinkled over with black isolated buttes and clusters of basaltic mountains and desolate hills, and being almost entirely without wood, grass or water.

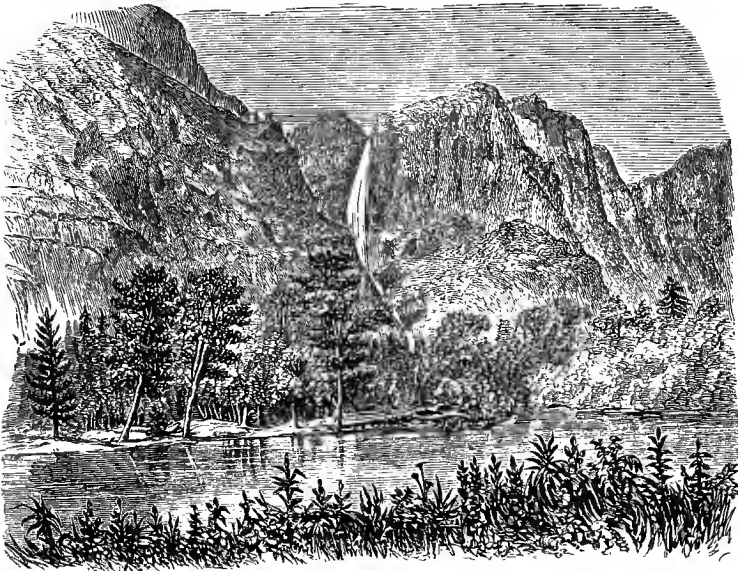
From this classification of its lands it will be seen that a very large proportion of California is not only unfit for the plow, but even for grazing purposes, a circumstance that should not be overlooked in estimating its ability for sustaining population; though this is perhaps equal to that of any other country of like area.

CHOROGRAPHY OF THE STATE—ITS SYSTEM OF MOUNTAINS.

California contains two principal chains of mountains, the Sierra Nevada and Coast Range, there being also subordinate groups and ranges. The Sierra Nevada, much the highest but shorter chain, commences near the north end of the State and extends along or near its eastern border for about two-thirds its length. The Coast Range, also beginning in the northern part of the State, runs south parallel to and near the sea for a distance of about 500 miles. It is composed of several parallel ridges, separated from each other by numerous valleys, the width of the entire belt varying from forty to sixty miles. Some of these valleys are quite narrow, while others are so broad as to assume the character of plains. They are generally fertile, moderately well wooded and watered, and in consequence of their accessibility, mild, healthful and equable climate, constitute the most desirable places of residence in the State. The general elevation of the Coast Range varies from five hundred to three or four thousand feet; a few of the higher peaks reaching a much greater altitude. Along their northern portions and at a few points further south, these mountains are well timbered. The soil upon them is nearly everywhere good, and being within the moistening influences of the ocean air, crops here are less dependent upon the rains than in most other parts of the State. For the same reason the pasturage supplied by the wild oats and native grass, is always abundant. In some places the most westerly ranges of these mountains border closely upon the sea, while again a wide space, composed of low hills or elevated plains, interposes between them and the shore. Though this portion of the range abounds with small streams, no considerable rivers have their sources in these mountains.



Mt. BROERIE, NEVADA FALLS.



YOSEMITE FALLS.

In the Sierra Nevada, on the contrary, a very lofty range and covered for more than half the year with snow, many large rivers take their rise, and flowing down its western declivity mark the same with canons from 2,000 to 3,000 feet deep. This range is also timbered to its very summits with magnificent forests of pine, spruce and cedar, while along its lower slopes and foothills stretches the great gold bearing belt of the State.

Both to the north and south of these two main chains of mountains are other scattered groups and short ranges, the entire north-western part of the State having an elevated and rugged surface. Nearly all these mountains, except portions of the Coast Range and some clusters further south, are well watered and timbered. Along their base the forests are more open, being much scattered on the foot-hills, but growing more stately and dense as their summits are approached.

Above 6,000 or 7,000 feet, however, the timber begins to dwarf, many of the more lofty peaks and ridges containing little or none at all. Along the lower portions of the Sierra Nevada, there is much bunch grass, and higher up, often on the very top of the range, many small meadows, to which herdsmen drive their stock for summer pasturage.

CHAPTER II.

The principal Agricultural Valleys of the State. The Hydrographic System of California. Seasons and Climate. Temperature. Agricultural Products, Variety, Quantity, &c. Wide Range of Production. Neglected Products and Pursuits.

THE PRINCIPAL AGRICULTURAL VALLEYS OF THE STATE

Consist of the Sacramento and San Joaquin, the Tulare, Santa Inez, Cuyama, Santa Susana, Pajaro, Santa Clara, Sunol, Amador, Livermore, Napa, Sonoma, Petaluma, Bereyessa, Wolfskill, Cache Creek, Russian River and Eel River—some of them very small and others of great extent, but all distinguished for the large proportion of the good land they contain. There are many other valleys of scarcely less fertility and extent than those named, but being mostly in remote parts of the State and as yet but sparsely settled, they do not call for especial notice. The Sacramento, San Joaquin and Tulare valleys, all occupying the same depression and really constituting but a single valley, have a united length of near five hundred miles with an average breadth of fifty miles, embracing within their limits nearly sixteen million acres of land, more than one-half of which is of excellent quality and nearly all susceptible of tillage. The most prolific and valuable, as well as the most beautiful valley in the State is, however, that of Santa Clara, lying on either side and south of the bay of San Francisco, a region unsurpassed in the excellence of its soil and climate, and in the elements of the picturesque and beautiful.

Many of the other valleys enumerated are not, however, inferior to this except in the matter of size, while some of the plains in the southern part of the State, such as those in the vicinity of Los Angeles, Santa Barbara and San Bernardino, are equally as prolific and even more varied in their productions than the choicest of these northern valleys, their only objectionable feature being the somewhat greater heat of the summers in that quarter. Many of these valleys contain scattered groves of oak, while in others, such as the Sacramento and San Joaquin, nearly all the timber is found in narrow belts growing along the principal streams and water courses. Along the margins of these valleys as they rise into the foothills on either hand, a more scrubby species of oak, and higher up, of pine, grows in considerable quantities.

THE HYDROGRAPHIC SYSTEM OF CALIFORNIA,

Though unique is simple and easily understood, the San Joaquin and Sacramento rivers which arise, the one at the southern and the other at the northern end of the great interior valley and meet near its centre, drain, with their tributaries, more than one-half the entire State. All their important branches have their sources in the Sierra Nevada, whence they flow in a westerly direction; and although many of them are large streams, only a few are navigable and that for a short distance. Both the Sacramento and San Joaquin are navigable from their confluence in the bay of Suisun, a distance by their windings, of nearly three hundred miles. None of the other rivers in the State, of which there are several of considerable magnitude are navigable for any distance, except the Colorado forming the boundary between California and Arizona, up which light draft steamers have made their way, at favorable stages, over 600 miles. But few streams flow down the eastern declivities of the mountains though a large number, especially in the Sierra Nevada run in an opposite direction. Many streams dry up entirely in the summer, which during the wet season become large torrents and even considerable rivers.

California contains but a comparatively small number of lakes, the principal of which are Kern, Tulare, Owens, Mono, Tahoe, Clear, Eagle, and three or four others in the northeastern corner of the State. Some have a great depth while others are quite shallow, several of the number lying east of the Sierra Nevada having no outlet to the sea. The waters of this latter class, are so impregnated with alkaline and other salts as to be unfit for use, and even destructive to fish and all other forms of animal life.

SEASONS AND CLIMATE.

Properly speaking, California has but two seasons instead of four, as is generally the case with countries within the same degrees of latitude. These seasons consist of the wet and the dry; the former constituting the winter and the latter the summer of this coast.

The wet season usually sets in about the middle of November; at which time there is likely to be four or five rainy days followed by a period of dry weather. The rain-fall in that month varies, at San Francisco, from half an inch to seven inches and a half; about one year in five or six not more than half an inch falling, while

the quantity at long intervals amounts to as much as above stated. The amount of rain in December, the wettest month of the year, averages more than double that of November, there usually being heavy storms about Christmas. January is also apt to be a wet month, though somewhat fickle, the precipitation occasionally being excessive and again very scant. The same is true of February, though this month is generally drier and almost always contains a week or two of uninterrupted clear weather. During March there are commonly many wet days, though the aggregate amount of rain is less than in February; the annual precipitation being more uniform and certain in that than in any other month. The rain-fall of April reaches about three-fifths that of March, but is occasionally much less, there being at long intervals none at all in this month. From the first day of May till the middle of November there is but little rain, the total yearly fall during that period averaging less than two and one-half inches. The mean quantity of rain that fell at San Francisco during the past seventeen years, was as follows: In February, 3.08; March, 2.76; April, 1.74; May, .82; June, .05; July, .02; August, .01; September, .09; October, .57; November, 2.74; December, 5.37; showing a total average quantity for each year of 21.76 inches. Some years it happens that the amount of precipitation is much less than in others; thus during the climatic year extending from November 1st, 1850, to the end of October, 1851, it only reached 8.31 inches, and in 1863-4 only 8.59 inches; whereas, in 1862, 18.14 inches of water fell in the month of January alone; the entire quantity falling during the climatic year 1861-62, having amounted to 38.06 inches. This was the wettest and the other two years above named the driest occurring during the period of seventeen years; the former having brought a destructive flood and the others being attended with short crops of grain and grass, leading to the loss of large numbers of cattle.

For every year of extreme drouth, however, there are four or five having a sufficiency and one perhaps an excess of rain. Two extremely dry seasons rarely ever come together, though two and even three tolerably wet ones follow each other in succession, the three past years supplying an instance of this kind.

For December 1866, the rain gauge at San Francisco showed the extraordinary precipitation of 13.15 inches, and for the same month of the following year 12.85 inches, the other months of each year having been as wet as usual; while considerably more rain

fell from November 31st, 1868, to the 1st of December, 1869, than the average.

It would appear, so far as experience extends, that an extremely wet year or series of years is apt to be followed by one of drouth. An unaccustomed drouth when it does occur is not restricted to a particular section, but extends over the entire State. But while such is the case, the annual fall of rain is never uniform over the whole of California, but varies greatly in different sections.

In the vicinity of San Francisco, the average annual supply is, as above stated, 21.76 inches. In going north or east this amount increases, while in going south and southeast it diminishes. At San Diego, there is but one-half the precipitation that there is at San Francisco; while along the northern coast and in the interior it is three or four times as great. The mean annual quantity at different points in the State, as determined by observations made through a series of years, was as follows: At Fort Yuma, 3.24 inches; at San Diego, 10.43; at Monterey, 12.20; Stockton, 15.10; Sacramento, 18.23; Placerville, 52; South Yuba, 95.28, and at Red Dog, Nevada County, 64 inches. The rain-fall throughout the Colorado and Mohave deserts does not much exceed that at Fort Yuma, situated in the extreme southeastern corner of the State. In the regions lying east of the Sierra Nevada, and in the southern part of the San Joaquin valley, it is also greatly restricted.

It frequently happens that there is no rain whatever, in the summer and early fall months, the total quantity that fell at San Francisco, from the first of June till the end of September, having been but 2.50 inches during the seventeen years mentioned. October is also a dry month, its yearly average during that entire period having been less than half an inch. During the wet season the rains, with the exception of a few days, do not fall continually, but rather in showers, the nights being more likely to bring falling weather than the days.

TEMPERATURE.

As regards heat and cold, the climate of California is also marked by great uniformity in particular localities, while it may differ widely at points not far distant. Thus, the coast climate is very equable, the difference between the mean temperature night and day, and summer and winter being very slight. In proceeding inland, however, or ascending to greater altitudes, this disparity increases until it becomes extreme. In the central, eastern and southern

portions of California, and in fact everywhere beyond the reach of the ocean air, the hot season begins about the middle of May and continues to the close of September, and in some localities later. Owing to the absence of clouds and moisture the heat is intense, and continues with but little interruption, except at night, throughout this period. The nights, however, are everywhere cool; which by permitting sound and invigorating sleep prevents the debilitating effects experienced during the summer in most other countries. In the coast climate owing to the mists that drift in from the ocean, the sun is often obscured during the dry season, while in the interior there is not a dozen cloudy days throughout the entire summer season.

Except upon the higher peaks and ridges, very little snow falls upon the Coast Range, while in the valleys of that region it is rarely ever seen unless at a distance. On the Sierra Nevada, Trinity, Klamath and other northern mountains, however, it falls every winter to a depth varying from ten to twenty feet, and in some places deeper. On the lower foothills of the Sierra, there is but little snow, and in the great Sacramento and San Joaquin Valleys none at all, or at least none that ever lies for more than a few hours at a time. South of Monterey and Stockton, except at considerable elevations, snow is unknown. None of the lakes or streams of California ever freeze over, unless, perhaps some of the latter at points high up in the mountains. As a consequence no ice that will keep through the summer can be obtained in the State.

So mild is the climate that only in a few localities is stock, except it be work-cattle, ever housed or foddered in winter. But once in seventeen years has the mercury at San Francisco fallen as low as seven degrees below the freezing point; while it is no uncommon thing for the winter to pass without its dropping to forty degrees above zero. But once in that time has the thermometer ever indicated a heat of ninety-eight degrees, there having been but six days in which it ever rose as high as 90° . The mean noon temperature at that point throughout the year is 63.7° , that of December the coldest month in the year is 55° , and of September the hottest 69.5° . The mean annual temperature of the Coast climate, does not differ greatly from that of San Francisco, growing somewhat warmer as one recedes from it in every direction, especially towards the south and east.



LASSEN'S PEAK.

The mean annual temperature and also that of the several seasons at a number of prominent points in the State is exhibited by the following table :

LOCALITIES.	Spring.	Summer.	Autumn.	Winter.	Year.
	Degs.	Degs.	Degs.	Degs.	Degs.
San Francisco.....	56.5	60	59	51	56.6
Sacramento.....	56	69.5	61	46.5	58
Benicia.....	56.5	67	60.5	49	58
Monterey.....	54	59	57	51	55.5
San Diego.....	60	71	64.5	52.5	62
Fort Yuma.....	72	90	75.5	57	73.5
Humboldt Bay.....	52	57.5	53	43.5	51.5

Though the mean summer temperature of the interior and south-eastern parts of the State is made to appear low by the above table, it should be remembered that the average for the entire season is reduced to a low point by the prevailing coolness of the nights; the day temperature throughout the entire summer in these sections ranging from 80° to 100°; the hottest portions of the State being the great valleys of the interior, the foot-hills of the Sierra Nevada, in which lie the gold mines, and the Mohave and Colorado deserts.

In the latter and throughout the southern part of the San Joaquin Valley, the thermometer during the middle of the day stands for weeks at a time at 100°, and in some localities, as at Fort Yuma, even higher. About noon, however, a cool breeze is apt to spring up, which without greatly reducing the heat renders it much more endurable.

Thunder and lightning, hail and the aurora borealis, are all meteorological phenomena of rare occurrence in California. So little apprehension have the inhabitants of injury, from even the most dangerous of these agents, that lightning rods are never used; and, although the electric fluid has been known to strike, there is no well authenticated case of life ever having been destroyed by it.

Earthquakes also, though very common in certain localities, and occasionally felt in all parts of the State, have almost ceased to be regarded with alarm. Death from sun-stroke is very rare, if, indeed, it has ever resulted from this cause in a single instance.

AGRICULTURAL PRODUCTS, VARIETY, QUANTITY, VALUE, &C.

Prior to 1864, no very marked results were reached in farming in California, the export of agricultural products with the exception of wool, not having been such as to attract attention abroad.

And owing to the drought that prevailed in 1863 and 1864, California had but little grain or other farm produce to spare, flour having been to some extent imported. In 1865, our export trade began to assume larger proportions, and in the subsequent year the total value of all the exports from the port of San Francisco, exclusive of treasure, exceeded \$17,000,000, and during the years 1867 and 1868, the aggregate shipments of produce amounted to over \$45,000,000.

The value of all our agricultural products for the year 1869, including those consumed at home and sent abroad, is computed to have been \$30,000,000, being \$6,000,000 in excess of the gold yield of the State for the same period. The value of manufactured goods and wares, including machinery and articles of every description made in the State that year, is estimated at \$31,000,000; which added to the foregoing makes a total of values of \$85,000,000 created in a single year by a population of 550,000 souls, to say nothing of the extensive improvements, made meanwhile in every department of industry. In estimating the achievements of our people, made in these several departments of business, it should be remembered that it is scarcely more than ten or twelve years, since general attention was turned to any one of them, the origin of most of our important manufacturing industries, not dating back so far; and, although stock raising and wool growing had for a number of years been successfully carried on, not until the past few years was general farming actively and extensively engaged in.

The number of milch cows and the dairy products of the State have during the past two years been largely increased, it being estimated that about 8,000,000 pounds of butter and 4,000,000 pounds of cheese were made during 1869. Many of the dairies here are very large, containing from 100 to 1,000 cows, and in a few cases a much larger number. Milch cows receive neither stabling nor fodder during the winter. Horses and cattle of all kinds as well as sheep are suffered to run at large and pick their feed the year through; and though they generally get thin in flesh during the winter, they fatten up rapidly early in the spring, and remain in good condition until the old grass is spoiled by the next winter rains.

Owing to the mildness and healthfulness of the climate, domestic animals keep in good flesh, with a smaller amount of food here than elsewhere. They are also noted for docility and in all cases wonderfully precocious and prolific, horses and cows reaching

maternity one year earlier, and sheep and swine fully six months earlier than in the Atlantic States. Nor does this fruitfulness and precocity appear to interfere with their growth or otherwise tend to physical deterioration. The manner in which sheep and swine multiply is astonishing; and yet they attain a good size, are vigorous in constitution and fatten readily. Disease among domestic animals is little known, and those used for labor perform their tasks with greater apparent ease than in other countries.

The average yield of grain, growth of fruits, vegetables, &c., as well as the increment of stock, and the products of the orchard, garden and vineyard, are large in California, considering the facility and certainty with which they can be raised. Plowing is generally done in a hasty and superficial manner—no manures are used; the harvesting of grain is wastefully performed; many of the fields are left to seed themselves with no other culture than simply a harrowing, and sometimes not even that, and yet the average yield of wheat throughout the State has been over 20 bushels to the acre; the average yield of barley, 28 bushels; oats, 27; Indian corn, 33; rye, 20; buckwheat, 40; peas, 30; beans, 27; Irish potatoes, 45; and sweet potatoes 60 to the acre. With careful culture and greater economy in harvesting, these results could, at very small additional cost, be largely increased. At present a considerable proportion of the grain raised is the product of "volunteer crops," which, though they cost but little labor, never give a yield equal to those planted in the regular way, thereby reducing the average yield much lower than it would be with more thorough tillage.

Fruit trees, vines and berry bushes bear abundantly; apple trees sometimes yielding two, and strawberry vines three crops a year. Vegetables of every description, where the soil is properly prepared and there is a sufficiency of moisture, also give bountiful returns, California having been distinguished in this line of production; and what is more remarkable, these results have generally been attained without the use of artificial fertilizers or extra attention. Pumpkins weighing 240 pounds; squashes, 140; beets, 200; carrots over 30; sweet potatoes, 12, and the common kind as much as 6 pounds, have in many instances been grown; while apples weighing $1\frac{1}{2}$ pounds, quinces, 2; pears, $3\frac{1}{2}$; onions, 3, and cabbage and water melons, 30 pounds each, are not at all rare. Strawberries raised in extensive patches can often be seen in the markets, weighing $1\frac{1}{4}$ to $1\frac{1}{2}$ ounces, while clusters of grapes meas-

uring from 15 to 20 inches in circumference, and a foot or more in length can be picked in almost any thrifty vineyard, much larger bunches having been grown where the circumstances were specially favorable. In the southern counties of the State, growths exceeding the above proportions by at least one-third, are not considered rarities. All these products are generally solid, fine grained and well flavored, and are raised in the open air.

WIDE RANGE OF PRODUCTION.

Some idea of the capacity of California for growing the most diversified products and of the greatest excellence, can be obtained by a visit to any of the large San Francisco markets, selecting for this purpose the month of April, the least favorable of any in the year for a full display of our agricultural, pomological and floral wealth, and when the markets of the northern and western States of the Union are wholly devoid of new fruits and vegetables, and such a thing as fresh flowers, except grown in hot houses, is not to be seen. In these markets, as well as throughout the central and southern parts of California generally, are to be found in profusion even in the winter season, apples, pears and quinces, all as fresh, plump and well flavored as when taken from the tree, oranges, limes and lemons, of enormous sizes, excellent flavor and perfectly fresh, having perhaps been picked but a day or two; figs and olives, also just from the orchard. Every manner of vegetable is to be seen here just from the field and garden, having been left in the ground until required for use. Cabbages that will nearly fill a bushel basket, solid and well headed, are plentiful; turnips, beets, carrots, parsnips and squashes of enormous size lie in heaps about the market; lettuce, radishes, cellery, asparagus and similar vegetables are cheap and abundant. Even thus early in the season, there are plenty of new potatoes, peas and tomatoes, while the stands loaded with huge bouquets remind the stranger that the most tender and beautiful flowers never cease to bloom in San Francisco.

If one visits the stalls, he will find their shelves loaded with fresh butter and honey, for this is the best season of all for milk, and bees have already got to work after a partial and temporary suspension of their labors during the winter. New cheese also begins now to make its appearance, and fresh hen's eggs are plentiful; the season for those of the gull and other aquatic birds hav-

ing not yet arrived. Of fish and game, there is no lack, whether it be in supply or variety. Rabbits, deer and hare, geese and ducks, snipe and plover, quail, pigeons and small birds of different kinds are brought in from every quarter and sell at low prices. Later in the season, when these animals have had time to fatten, bear steak is always to be had in the markets. The huge quarters of beef and mutton, exhibited on every side, indicate the size to which domestic animals grow, and how easy it is without stall feeding to keep them fat throughout the winter.

We are now speaking of what can be seen in the month of April, with us the most untoward in the calendar, for an exhibition of this kind. If the San Francisco markets are visited four or five months later, there will not only be found a vast increase in the variety of the articles displayed, but also a marked improvement in the quality of many kinds, as well as a more general abundance.

By this time, the later fruits, apples, pears and peaches, as well as the grape, have come into market, though the season of the earlier fruits is not yet over. Strawberries are still plentiful, while flowers abound more than ever. Everything is now luscious, cheap and so abundant that none need lack. Superb peaches sell at a dollar per basket, and poorer ones at less than half that price. Delicious grapes can be bought for six or eight cents a pound, apples at one dollar per box, and all other fruits at corresponding prices; and yet so precocious and prolific are the vines and trees, that the vintager and orchardist find their occupations profitable, and few classes are more sure of making money than the horticulturist, whose garden is located near a good market.

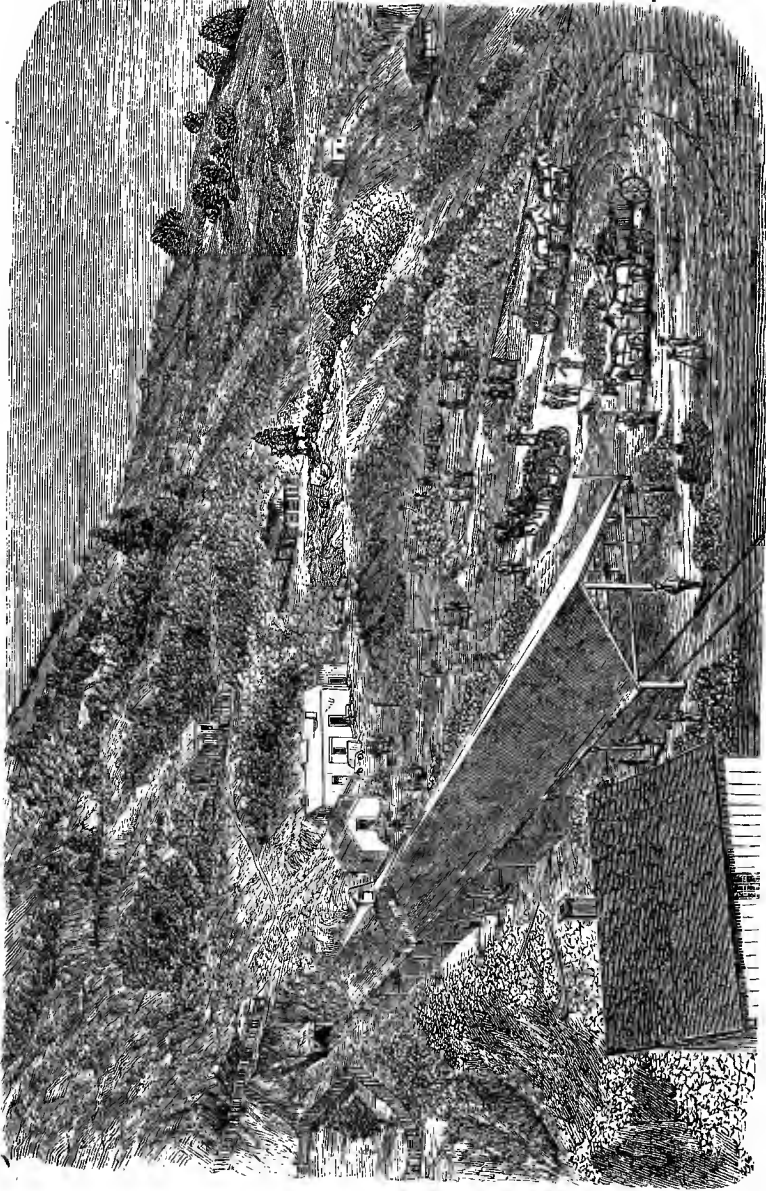
NEGLECTED PRODUCTS AND PURSUITS.

Apart from the cereals, which have heretofore formed the principal and most profitable crops grown in the State, it is found on trial that many other products, elsewhere constituting important staples, can also be successfully and profitably grown. In this category may be mentioned flax, hemp, the hop, and the sugar beet; the castor bean, chicory and the osier willow; the mulberry tree and many kinds of nuts; all of which could no doubt be raised to advantage; the economical culture of rice, cotton, tobacco, the sugar cane, and the tea shrub, being for the present a more open question, though it is known that both the soil and climate are suited to the growth of most of these productions.

There are a number of minor pursuits in this department of industry that have not yet been largely, and some of them not at all engaged in, but which open very inviting fields to labor; such as the drying and the preparing of canned fruits, the making of raisins, the feeding of silk worms, &c., the most of which could be performed by women and children.

The facilities for prosecuting these several branches of business with comfort and success, are altogether greater in California than in any other part of the world; and, however much they might be extended they could hardly be overdone.

In the collection of mustard seed, valuable for its oil and as an article of export, of the *amole* or soap plant, yielding an excellent article for upholstery—of the sap of the pine and other resinous trees, valuable for the manufacture of oils, pitch and turpentine; the planting of trees for fencing and fuel and in a variety of similar occupations, heretofore overlooked, a large amount of unskilled labor will yet be able to find profitable employment.



ENTRANCE TO NEW ALMADEN QUICKSILVER MINE.

CHAPTER III.

Various Mechanical and Manufacturing Establishments. Industrial Enterprises and Works of Internal Improvement. Everything Done on a large Scale. Improving the Channels of Interior Commerce. The Class of Immigrants most needed in California. The most Expeditious and Satisfactory Methods for Obtaining Lands. Where the Immigrant may find Lands for Settlement. Central Pacific Railroad Company. Route of Road and Character of the Country through which it passes. Wheat, Grazing and Orchard Lands. Vineyard and Dairy Lands, Mines and Quarries. How Lands are Sold. Policy of the Company.

VARIOUS MECHANICAL AND MANUFACTURING ESTABLISHMENTS—
INDUSTRIAL ENTERPRISES AND WORKS OF INTERNAL IMPROVEMENT.

Besides having created an agricultural industry capable of yielding values equal to \$30,000,000 per year, and opened mines giving an annual product of \$24,000,000, California has meantime expended vast sums in building up a manufacturing interest, which as we have seen, turns out an amount of values not inferior to that realized from her entire agricultural products. Large amounts of money have also been expended in the construction of reservoirs and water ditches; in the erection of quartz, lumber and flour mills, and in building railroads, wagon roads and other works of internal improvement.

Among the leading manufacturing and mechanical establishments, thus founded in the State, the greater portion of them being located in San Francisco, may be enumerated the following: Four woolen mills, three of large capacity and all in successful operation, with three or four others projected and likely soon to be erected; two powder and two paper mills, making a sufficiency of powder and of all the ordinary kinds of paper, for home consumption and some for export; two fuse and one cotton factory, an extensive cordage and a wire rope walk; each turning out large cables and producing very superior articles in its respective line; two glass-works, making all the more common kinds of glass-ware, the material for which are easily procured and abundant; about forty tanneries, several of them very extensive, and all turning out leather of the finest and best quality; three sugar refineries, working up over sixteen million pounds of raw sugar annually, giving products valued at two and half million dollars; one large rolling

mill, furnished with all the gear and appliances requisite for making railroad, bar, sheet and every other description of iron, as well as for forging the largest class of anchors, steamship, shafts and similar ponderous pieces of machinery; over twenty foundries, many of them of large capacity, giving employment to between two and three hundred hands each, together with a larger number of boiler works, brass foundries, saw and file factories, and other minor establishments of the kind; the whole employing a large labor force and turning out, in the aggregate, an immense amount of work; several large establishments for refining petroleum and for expressing and manufacturing the vegetable oils; works for smelting lead and manufacturing that metal into shot, sheets, pipes, &c.; a number of potteries, whereat great quantities of stone and earthen wares are made, clays for making these as well as the finer kinds of crockery, fire-brick, crucible, &c., being abundant; two chemical and acid works, producing all the various articles of this kind needed for home use, with large quantities for shipment abroad, the crude material required in their manufacture being mostly found plentifully in the State; one type foundry, manufacturing type from metals taken out of our own mines, and at a price that fairly competes with the imported article.

We manufacture wagons, carriages and agricultural implements of every description on a very large scale; also harness, boots and shoes, made from home tanned leather; brooms and brushes, from corn raised in the State, this plant growing luxuriantly in many localities; furniture, in immense quantities, also made mostly from woods of home growth; besides which we are engaged extensively in the manufacture of clothing, wood and willow ware, cigars, starch, glue, soap, candles, matting and matches; yeast, powders and spices; pianos, organs and mirrors; saws and cutlery, furs, oil cloths, gold leaf, jewelry, straw goods, gloves, &c. We have now many extensive cooperages, bag factories, metallurgical and assaying establishments; rice and salt mills; hose, door, sash and blind factories; put up immense quantities of preserved fruits and vegetables; cure and pack meats sufficient for all home requirements, and in fact engage in nearly all the leading branches of business and manufacture carried on in the old and crowded communities of the East, making largely every article required for domestic use, and even exporting considerable quantities of certain kinds every year.

Besides engaging thus largely in manufacturing, we have estab-

lished a number of large shipyards, whereat many vessels of every class and capacity, including ocean going steamers are built every season; have opened and extensively worked quarries of marble, slate, freestone, granite and other valuable building stone, and make also superior cement, lime, &c.

It may be observed that many of the products of California are distinguished for their excellence, having a preference among consumers over those imported from abroad. Thus, in many agricultural districts the farmers will use no other plow than that made in the neighborhood; teamsters invariably prefer wagons and harness of California make, while foreign built quartz mills have never yet been able to gain any foothold in this State. Machinery of this kind has been gotten up abroad with great care and sometimes at less cost, perhaps, than it could have been made for here; but after a brief trial it has almost always been rejected and that of home make substituted in its place. So marked is the superiority of our quartz mills that we have not only been able to supply the demands of the entire coast in this line, including lower California and the northwestern States of Mexico, but have of late filled orders for mills to be used in the Atlantic States. The quartz miners of Arizona, Utah, Idaho and Montana, though they might in some cases, owing to lower freights, obtain their machinery cheaper from the East, invariably send to California for everything they require in this line. There are now being constructed in San Francisco, and in the extensive shops of the Central Pacific Company at Sacramento, great numbers of railroad cars and locomotives, all of which it is found can be made here equally as well as in the Atlantic States or Europe.

The superiority of our climate, the abundance in which we possess most descriptions of the raw material, such as wool, lumber, the various woods, metals and minerals, so essential to the cheap production of many kinds of wares and substances; our immense water power, scattered over all parts of the State; vast forests and deposits of petroleum, with no inconsiderable quantity of coal, all convenient to hand, guaranteeing never-failing supplies of fuel for the generation of steam and our central and commanding position on the western shores of the continent, all point to the building up here of immense manufacturing and mechanical interests.

Among other industries established and improvements effected, not to mention those of minor importance, are the following:—

Over six hundred miles of railroad built and in operation with nearly as much more in course of active construction ; more than two thousand miles of expensive wagon roads, the most of them running through mountainous districts and several leading over the Sierra, the whole having cost not less than \$2,000,000 ; nearly six thousand miles of water ditches, supplying water for mining operations, irrigation and motive power, and constructed at an outlay of \$20,000,000 ; five hundred quartz mills, carrying over 10,000 stamps, earning annually \$12,000,000, and erected at a cost of about \$10,000,000 ; one hundred and fifty flouring mills, turning out nearly 2,000,000 barrels of flour every year with capacity to make twice that quantity ; three hundred and sixty saw mills, some of them very extensive, and cutting in the aggregate about 200,000,000 feet of lumber annually. Immense sums of money have been expended in the business of prospecting and opening mines, some single tunneling operations having cost nearly a quarter of a million of dollars and required ten or twelve years for their consummation ; from all of which it will be seen that our people, however reckless and extravagant they may have shown themselves in some respects, have not been lacking in industry and enterprise.

EVERYTHING DONE ON A LARGE SCALE.

It is a characteristic of Californians, not only to push everything in which they engage with energy, but to prosecute operations on an extended scale. Thus, it is no uncommon thing to see fields of grain embracing three, and even four thousand acres belonging to one proprietor. Many individuals in California are owners of tracts varying from ten to fifty thousand acres in extent ; some farmers planting as much as five thousand acres of land every year, besides owning perhaps ten or even twenty thousand sheep, two or three thousand head of horses and cattle, and a thousand head of swine. One firm in the State has enclosed 75,000 acres of land on which they pasture 3,500 head of milch cows. Several wool growers own flocks of fifty or sixty thousand sheep each. Many single vineyards in the larger grape growing counties contain from three to four hundred thousand vines, while orchards with three or four thousand trees of each of the more common varieties of fruits are frequently to be met with. Two orange groves near Los Angeles contain 4,000 trees, some of which bear as many as 3,000 oranges every year, the whole averaging

1,500 to the tree. Nurseries of two or three hundred acres, gardens of one hundred, and strawberry patches of forty or fifty acres are not uncommon things.

Many mining, lumbering and other operations are conducted on a scale of corresponding magnitude. Some of the ditches built for conducting water into the mines have cost, with flumes, branches and reservoirs, over \$1,500,000. Many of the saw mills in Humboldt and Mendocino counties have each a capacity to cut between five and six million feet of lumber annually. The Hayward quartz mine, opened to a depth of more than 1,200 feet, has, during the past twelve years, yielded a total product of \$5,000,000; of which nearly one-half was net profit, while the Blue Gravel Claim at Smartsville, has, for several years past, given almost equally good returns; these two mines representing each the better class of claims to which they respectively belong.

IMPROVING THE CHANNELS OF INTERIOR COMMUNICATION.

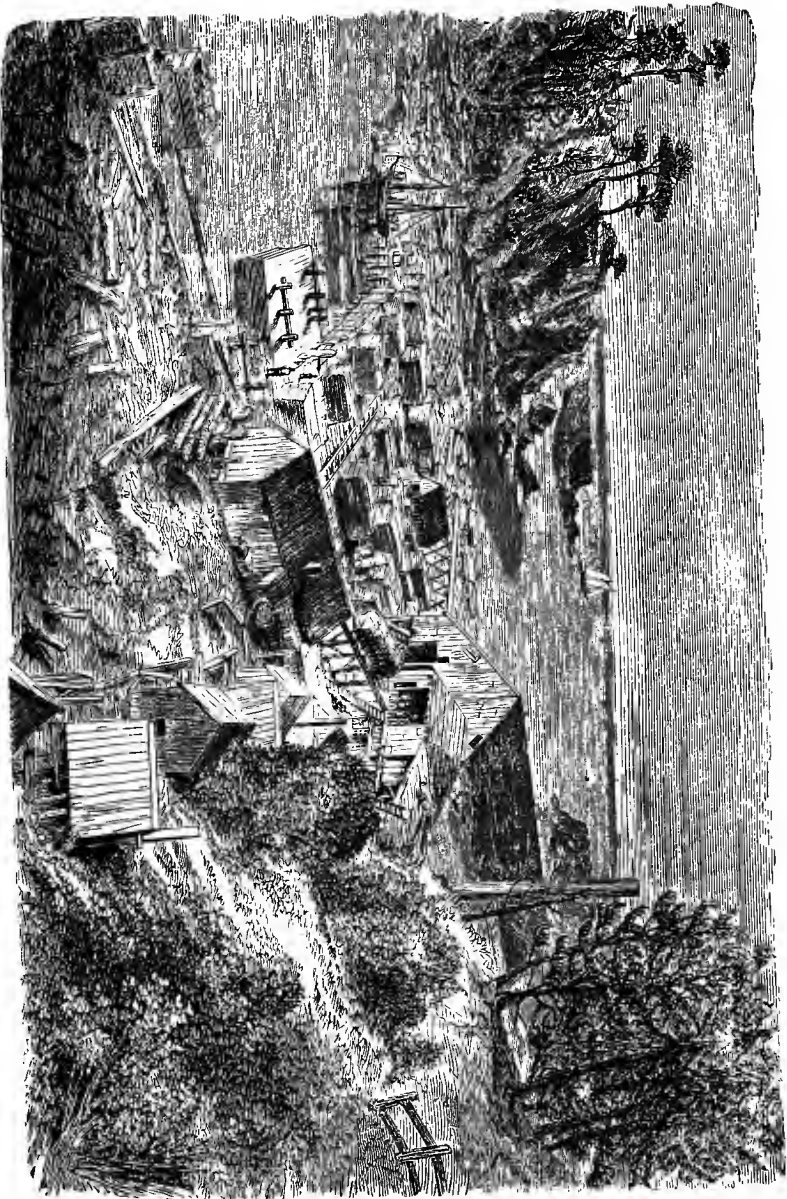
One of the most pressing wants felt by the California farmer, as well as the miner, has been that of good wagon roads and railroads establishing cheaper and more expeditious communication between San Francisco and the interior, a want which is now fortunately about to be, in a good measure, supplied. After years of delay the era of railroad building seems at last to have arrived, there being at the present time, in addition to that already completed, several hundred miles of track in course of actual construction, leading from the metropolis to various important agricultural districts and mining centres; while a much greater extent has been projected, portions of which will, no doubt, be built within a short time. With these additional facilities to cheap transportation and travel, the value of farming lands will greatly appreciate, and the settlement of the more remote sections of the State be materially hastened. The building of graveled wagon roads, where most needed for travel, is also being vigorously entered upon, and many farming communities, which have hitherto been isolated, will soon be put in easy communication with good markets and shipping points during the winter.

THE CLASS OF IMMIGRANTS MOST NEEDED IN CALIFORNIA,

And who would be most likely to benefit themselves by coming here, are certain skilled artizans, practical miners and small far-

mers—more especially the latter. Not but that all other classes of laborers would find here ready and remunerative employment, with openings for advancement and the accumulation of property, such as do not present themselves in any other part of the world; yet to such as wish to settle in the country and become landed proprietors, employing themselves and owning their own homes, California presents strong and peculiar inducements for immigration. In the first place the expense as well as the trials and hardships, incident to starting farming operations, are by no means so great here as in most other countries. Many of our largest and most wealthy landholders spent the first few years of their farmer life here in canvass tents or the rudest kinds of turf cabins, some having no other shelter for the first season than their immigrant wagons. If the settler be poor almost anything can for a time be made to serve for shelter to himself and family, so mild and healthful is the climate. In the next place, land, comparatively speaking, is everywhere cheap, and can usually be obtained on very easy terms. It is generally of excellent quality; is mostly free from stone and timber, being clear and ready for the plow. It is easily broken up, and, when properly tilled, is almost sure to bring a good crop every year, being rich enough to produce well without the aid of fertilizers or artificial watering. By summer fallowing, the farmer may put in his seed at his leisure, having the entire summer and autumn before him. In any event he need scarcely ever be hurried with this part of his labors. So also in harvesting, he has ample time to gather his crop, which may without receiving damage be left standing for weeks after ripening, and remain for even months after being threshed on the field without detriment. Barns and sheds are not much needed, whether for housing, stock or sheltering grain. Very fair crops can frequently be secured by simply harrowing in the seed left upon the ground after harvest; a great deal of land being seeded and put in after this manner. Work-animals, owing to the kindly influence of the climate, are more tractable, easily kept, and capable of performing more work than in the Atlantic States. The farmer here is not much troubled with wild animals or vermin, nor is the grain likely to suffer from insects, rust or other causes of blight, while it is never killed by frost or smothered by snow. The straw is almost always clean and strong, and the berry plump and bright; California wheat having a good reputation abroad for the flour it makes, while owing to its extreme hardness and dryness, it stands long sea voyages

NOZO STEAM SAW MILL.



better than any other. The average weight of our wheat, as well as most other kinds of grain overruns the fixed standard, sometimes to a notable extent.

A most important gain is likely to be effected in favor of the California farmer, through the promised successful introduction of the steam plow, an implement that could be used to great advantage, owing to the remarkable freedom of our lands from stones and other obstructions. This plow, a California invention, has been sufficiently tested to almost conclusively establish its character as a most effective pulverizer of the soil, and a great labor saving machine.

As already stated, the climate of California is extremely invigorating and healthful, and the soil everywhere prolific almost beyond example. No other country is so free from endemic disease, or capable of bringing to perfection so great a variety of valuable products; none being possessed of such strong vitalizing and acclimating powers. Here in nearly every part of the State, except in the extreme north can be seen the olive and the apple, the plum and the banana, the hardy grains of the north, and the delicate fruits of the tropics growing and maturing in the same field together. No other country in the world offers such inducements to capital, such opportunities to labor, or such a favorable field for the growth of a wide and varied industry, as this. Our unoccupied lands are so broad, our wants so numerous, and our resources so diversified that we really have room and need for all that may choose to come. We require the experience, energy and enterprise of our own people; the money of the capitalist to help inaugurating new industries and in opening our mines—the small farmers of Germany with their frugal habits and patient industry—the vine and silk growers of France and Italy, with their skilled and pains-taking labor, the operatives of Lowell and Manchester for our factories; the men of Lancashire and Sheffield, for our shops and forges; the colliers of South Wales and the miners of Cornwall to aid in the development of our mineral wealth, and, in short, our necessities call for all classes of artizans and laborers as well as the surplus capital of the old world, inasmuch as the whole could be furnished with homes and employment, and set to work in a field that promises to all, if not a surperabundant wealth, at least, a comfortable subsistence and a fair reward.

THE MOST EXPEDITIOUS AND SATISFACTORY METHODS FOR PROCURING
LANDS IN CALIFORNIA.

While there is still a great extent of public land in this State open to settlement under the homestead and pre-emption laws, that most convenient to good markets has been already largely taken up, either under these laws, or by purchase under various classes of land warrants, large tracts having been secured by individuals and companies who now hold them for sale under patents issued to them by the General Government. In most of these cases, as well also as from parties holding under Spanish grants, these lands can be bought at moderate prices and on easy terms. It often happens, therefore, that persons wishing to obtain small parcels of good land advantageously situated, may better buy from this class of owners than to incur the delay, trouble and expense attendant on pre-empting or purchasing directly from the Government. The main object with the settler is to obtain a good title, with as little trouble and expense and as soon as possible—fixed and certain boundaries being at the same time a consideration of moment. This cannot, of course, be done where the public domain has not yet been surveyed, as is the case with a great portion of it in California. The settler, after finding a piece of the public land that suits him, must first ascertain whether or not it is unoccupied and open to pre-emption and purchase, and whether or not it has been surveyed. If not surveyed, he must pay for the services of a surveyor to connect the lines of the township in which his tract is situated, with those of an adjacent township already established, and to further ascertain where the sectional and subdivisional lines in the neighborhood of his tract will fall when the land comes to be finally surveyed. For this service the settler must pay out of his own pocket; he being left in doubt as to the correctness of the lines run until the regular survey is completed, sometimes a period of several years, and which may finally disclose that his improvements are not upon his own land. Owing to certain causes of delay, incident to California, it often happens that five or six years may elapse between the time the settler enters upon his quarter section and the filing of his township plats in the local land office; after which he must prove his claim, show by witnesses that the land is open to pre-emption and that he has complied with all the requirements of the law; after which, on payment for his land, he receives a Government patent. Owing to these uncertainties and vexatious delays, it is generally

better for the settler to buy what land he wants from private owners, holding under Government patents, even if he have to pay a somewhat higher price for it.

WHERE THE IMMIGRANT MAY FIND LANDS FOR SETTLEMENT.—CENTRAL PACIFIC RAILROAD COMPANY.

By way of aiding immigrants and others desirous of obtaining lands in California, we have been at some pains to collect information as to parties having large tracts for sale, and the towns upon which the same can be purchased. As the Central Pacific Railroad Company are the largest land owners in the State, we first present a brief statement in regard to the quantity, quality and situation of their lands, and the conditions upon which they are now disposing of them to settlers. The grant made by the General Government to this Company, to aid them in the construction of their road, amounts to 12,800 acres per mile; all of which has been patented to them since the completion of this great enterprise, and is now held by the Company for sale, considerable tracts having already been disposed of.

ROUTE OF THE ROAD AND CHARACTER OF THE COUNTRY THROUGH WHICH IT PASSES.

From Sacramento city, the capital of the State, in latitude $38^{\circ} 31'$ north and in longitude $121^{\circ} 29'$ west, the general course of the railroad is northeast, over the river bottom and level prairie lands, a distance of twenty-five miles: at this point it meets the rolling timber lands and low hills that lie at the base of the Sierra Nevada mountains; reaching one of the main spurs of the Sierras it ascends to the summit, a distance of one hundred and five miles from Sacramento, and at an elevation of 7,042 feet above the sea. At the crest of the mountain it passes through a tunnel and along the mountain side to the bank of the Truckee river. This river is the outlet of Lake Tahoe, whose surface is 6,247 feet above the sea; its waters flow northeast and empty into Pyramid Lake, one of the lakes of the great American Basin whose waters have no outlet to the ocean. The road follows the banks of the Truckee river to the Big-bend of the Truckee, a distance of 190 miles from Sacramento. From this point its course is northeast until it meets the Humboldt river, which flows westward and also

empties into the Great Basin; it follows up the banks of the Humboldt river to its source, and so on in the same general direction around the northern end of Great Salt Lake.

ALLUVIAL OR "BOTTOM" LANDS.

From this statement it will be seen that the Company has every variety of land, situated in the different climates between semi-tropical and temperate. Near the City of Sacramento it has large quantities of what are called bottom lands; that is, lands that are overflowed by the rivers and streams in winter, and which are annually enriched by the deposits brought down by the water from the mountains. Like the valley of the Nile, they produce yearly unvarying large crops, the deposit during each rainy season causing them to be inexhaustible in their fertility. They yield every variety of garden and field vegetable cultivated in a semi-tropical climate, including potatoes, onions, cabbage, pumpkins, beets, tomatoes, peas and the various small fruits. Large tracts are annually planted with maize or Indian corn, of which heavy crops are produced. Many farmers have cultivated tobacco, which has always been found profitable. On these lands are also grown large quantities of hops, from the cultivation of which many persons have become wealthy. The hops produced are not excelled by any known in the markets of the world. From the fact that it never rains in this climate during the season they are maturing they lose no portion of the extractive principle for which they are used, and are said by brewers and others who make use of them, to be from ten to fifteen per cent more valuable than those grown in climates where there are summer rains. Many plantations have been made on these lands with mulberry trees, which thrive almost without cultivation. It is found that the climate of California is admirably adapted to the silk worm, and that here it is not subject to the diseases that affect it in Europe. The weaving of silk goods has been commenced in California, and there are not as yet mulberry trees sufficient to supply the yearly increase of silk worms. It is expected that in a few years California will export silk. Many kinds of fruit are grown on these lands, such as the pear, apple, plum, cherry and peach. The largest peach orchards in the State are situated on "bottom lands."

WHEAT, GRAZING AND ORCHARD LANDS.

East of these alluvial bottoms the road runs for a distance of twenty miles through rolling prairie lands, alike well suited to grazing, fruit and grain growing. The land at first is nearly level, becoming more uneven and better timbered as we proceed east, the trees consisting of scattered groves of oak. This land is covered with a variety of native grasses, and in the spring with myriads of wild flowers. Cattle do well, and a good deal of dairying is carried on here. With the exception of work animals, stock require neither fodder nor shelter throughout the year. All the cereals except Indian corn can be grown here to advantage.

GRAZING LANDS AND SHEEP RANGES.

Still going east along the line of the railroad, after leaving the prairie lands, the road passes over about twenty-five miles of rolling lands and low hills. These contain groves of oak trees, and many tracts are heavily timbered. In the more elevated regions of this section the oaks are intermixed with pines. The land in this section not only produces wheat and barley but will, if not cultivated or too closely grazed, produce the native wild oats, which were found growing upon them at the time the Americans took possession of the country. Among these hills are grazed large herds of cattle, horses and sheep. At a distance of twenty-five miles from Sacramento, on the line of the railroad, and within a distance of fifteen miles on each side, more than fifty thousand sheep are grazed throughout the year. No hay is cut or saved for these sheep, or if any is given them it is for the short period after the first rains in December, before the springing up of the new grass. The best sheep ranges of the State are in this section; the wild oats and native grasses are nutritious and abundant; the groves of oaks afford shade from the heat of the mid-summer sun and the numerous streams flowing through these hills give a plentiful supply of water.

VINEYARD LANDS.

The success that in California has followed the cultivation of the European grape, has led to the planting of numerous vineyards. After an experience of eighteen years, the fact has been demonstrated that in no place do the various kinds of European

grapes, both for wine and the table, thrive so well and produce such excellent qualities of wine and table fruit, as on the hills that lie at the base of the Sierras. The soil is composed of the worn down particles of granite, quartz and slate, intermixed with lime from the numerous bands of limestone that traverse the mountains. Since the European grape was cultivated in this State—and there are vineyards planted by the Jesuit Missionaries that are ninety years old—no instance has been known of a failure of the grape crop. There are no frosts to injure it at the time it is in blossom, and no rain to injure the fruit during the period of ripening. Some of the largest vineyards in the State are on lands purchased from the Railroad Company, some of them producing from fifteen to twenty thousand gallons of wine annually.

RAISINS.

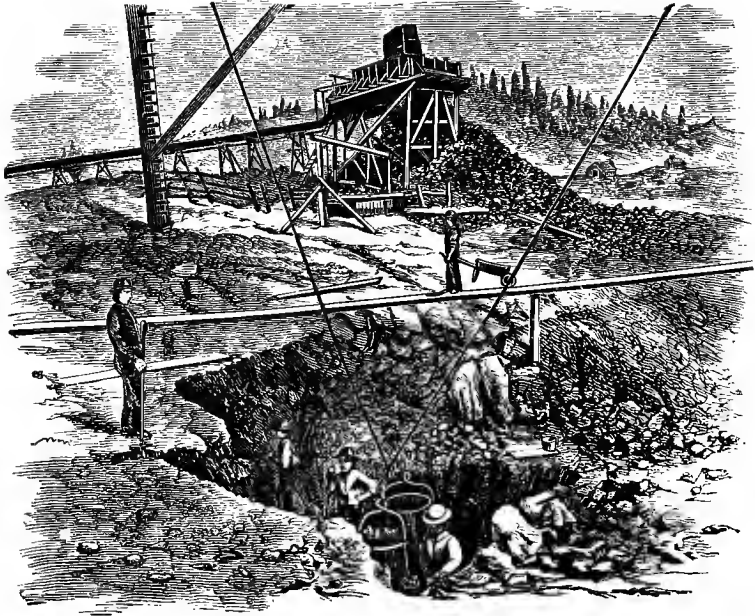
A new industry has been developed by Mr. B. N. Bugbey, on a piece of land purchased from the Railroad Company near the town of Folsom, that is, the cultivation of the raisin grape, and the manufacture of raisins. The process of converting the grape into raisins is so simple that it can be done by children; when the grape is ripe the bunches are cut and spread upon boards in the sun, and turned each day until cured, after which they are boxed and forwarded to market. Recently, Mr. Bugbey, in addition to making 17,000 gallons of wine and 3,000 of brandy, also made 30,000 pounds of raisins in one year. Of the unsold lands of the Railroad Company, there are at least 15,000 acres, all of which are suitable for vineyards.

VALLEY LANDS AMONG THE HILLS.

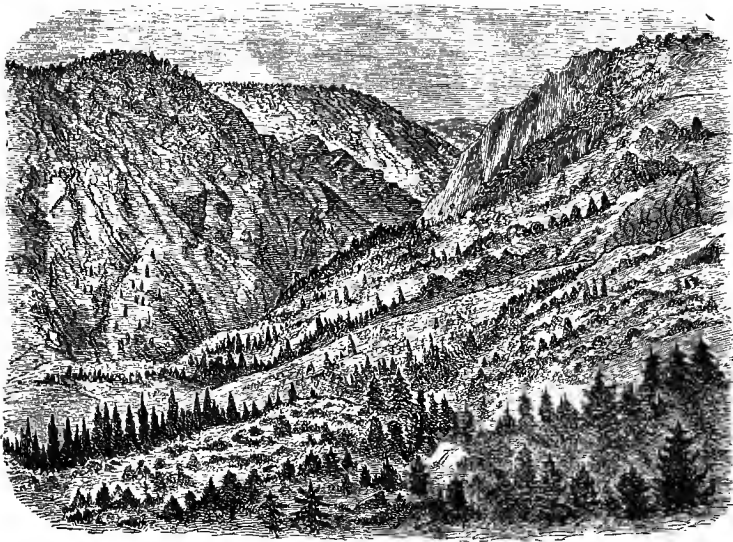
Ascending the Sierras, and above the vineyard lands, the oaks give place to dense forests of pines, firs and cedars. In the valleys of these hills are numerous farms and dairies, as well as sheep ranges. In these valleys all the fruits of the temperate climates are cultivated with remarkable success. The principal field crops of this region are barley, potatoes, turnips and hay.

TIMBER LANDS.

The pine forests of these hills, in quantity and in the quality of lumber made, are hardly excelled on the North American Continent. They give employment to many saw mills and a large



PLACER MINING.



JEHOVAH GAP.

number of men. The construction of the railroad through this region has cheapened the price of lumber, and in a large measure stopped its importation from other States. A large feature in the business of the railroad is the transportation to the valleys of lumber for building and fences. The average price in the valleys for lumber for fences, since the construction of the railroad through the pine forests, is sixteen dollars per one thousand feet. In a few years, when the railroad will have reached the vast mineral region of the treeless interior of the continent, these inexhaustible forests will support a large population of men engaged in felling trees, and manufacturing lumber. Of timber lands and valleys among the hills of the timber region, there remains unsold, belonging to the Company, at least 500,000 acres.

DAIRY LANDS IN THE MOUNTAINS.

In the Sierra Nevada, there are many valleys, some of them quite extensive, producing an abundance of grass during the summer, at which season numerous herds of sheep and cattle are driven to them for pasturage. Dairymen also drive their cows here making butter and cheese throughout the summer.

MINES AND QUARRIES.

For nearly fifty miles, the railroad runs through a region abounding with both the precious and the useful metals, the lands containing gold and silver being excepted from their grant. The balance, however, which is very considerable, even in the mining districts, belongs to the Company as well also as that containing only the more common metals. Near the road are extensive beds of iron ore, copper veins, and quarries of granite; the latter having been opened in many places and giving employment to large numbers of men. Nearly all the granite thus far used in the State, including that used for fortifications, for the new capitol at Sacramento, and for the bulkhead, in the harbor of San Francisco, as well as for street and building purposes, has been from quarries on lands purchased from the Company.

Lands belonging to the Company containing limestone, with an abundance of oak and pine wood on the same, are to be found at various points near the line of the road, within a distance of forty miles from Sacramento. Many of these quarries have been opened, and large quantities of lime are transported by the railroad to

Sacramento, and from this point distributed over the State. White and variegated marble, for building and ornamental purposes have been discovered at several points, and work has been commenced in opening the quarries and forwarding the product to market.

ESTIMATED POPULATION THE LANDS WILL SUPPORT.

From what has been stated, it will be seen that the Railroad Company has every variety of land for sale, including alluvial, bottom, prairie, grazing, wheat and vineyard lands, as well as lands covered with forests of oak and pine, and containing iron ore, granite, limestone and marble. It has been estimated, that the lands of the Company, remaining unsold, will support a population of one and a half million of persons, while the estimated present population within the limits of the railroad reservation does not exceed 30,000.

HOW LANDS ARE SOLD.

The price fixed by the Company for the best class of agriculture, wheat, orchard, dairy and vineyard lands is \$2.50 per acre; oak woodland, \$5.00 per acre, and first-class pine timber land, \$10.00 per acre. To men who will settle upon and cultivate the soil it sells agricultural lands on a credit of five years if desired, the purchaser paying at the time of buying twenty per cent of the principal, the remainder to bear interest at ten per cent per annum; oak and pine lands must be paid for at the time of purchase. At the Company's office, in Sacramento, maps can be seen showing the route of the road, course of rivers that flow through the land, and the United States surveys designating the lands granted to the Company and those retained by the Government; also the towns, villages and settlements within the railroad grant. A person desiring to purchase is directed to points near the line of the road where he can examine the kind of land desired. After selecting the land, if he wishes to pay for it in full at the time of purchase, he does so and takes a fee simple deed under the United States patent. A purchaser from the Company can buy any quantity of land, or as many sections as he may desire, but, as has been explained, each odd section being surrounded by four even numbered sections, which are retained by Government for settlers, no compact body of land can be sold of greater extent than one section of 640 acres. Supposing the purchaser desires to purchase a quarter section—a

tract of half a mile square, containing 160 acres—and that he wishes this land on the credit allowed by the Company, one hundred and sixty acres at \$2.50 per acre would be \$400 ; twenty per cent of \$400 is \$80 ; he would pay this \$80 to the Company leaving \$320 due, on this he would pay interest at ten per cent, or \$32 per year, for five years, payable yearly in advance. At the time of making the payment of \$80 and the first year's interest, he would receive a contract for a deed from the Company, signed in duplicate by him and the officers of the Company, in which he would agree to pay the yearly interest and the balance due at the end of five years, and the Company agreeing on its part to give him a fee simple deed when the balance was paid. At any time the purchaser desires he is allowed to pay the balance due and take his deed, thus stopping the payment of interest. The Company will not, however, receive it in installments. Practically but few persons avail themselves of the five years' credit, although purchases are frequently made on credit, yet in most instances by the second or third year they are enabled, from the sale of their crops, to pay the balance due and receive their final deeds.

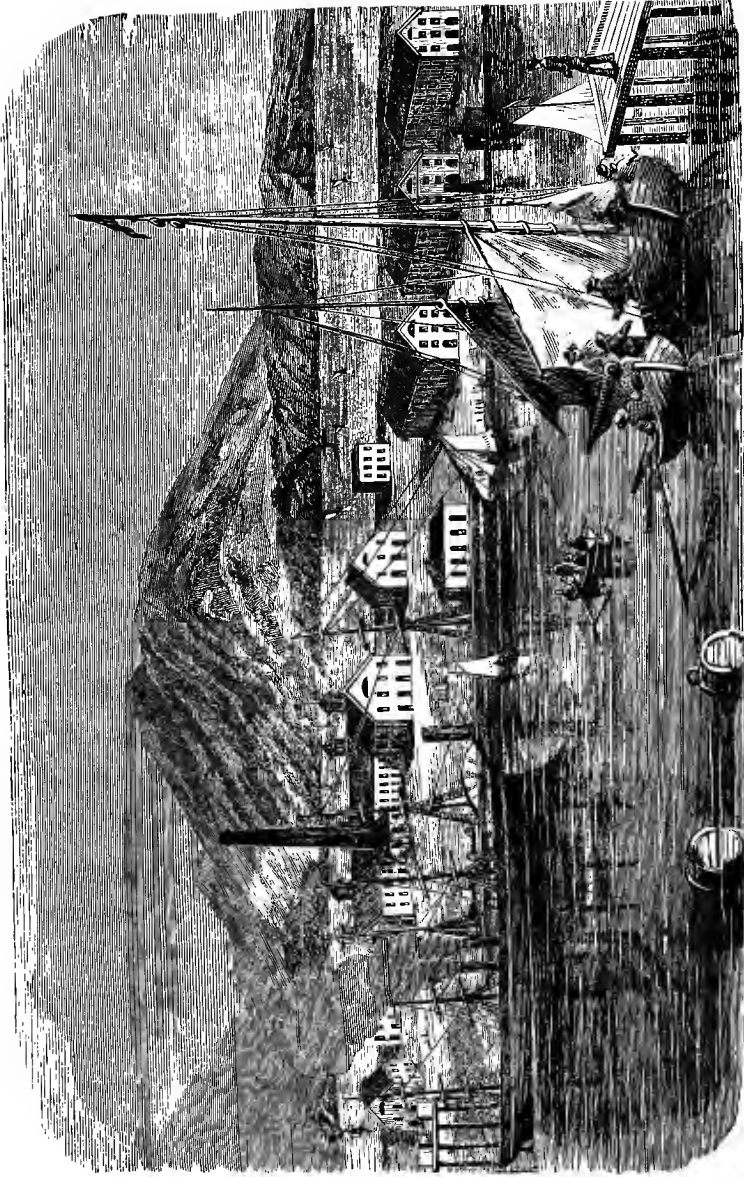
ADVANTAGES TO THE PURCHASER OF RAILROAD LANDS.

The purchasers of railroad lands have many advantages over those purchasing from the Government, some of which can be best explained by stating the mode in which the Government disposes of its public lands—the even numbered sections—within the railroad reservation. A person to acquire title from the Government by pre-emption must first go upon the land, commence its cultivation and erect a dwelling house ; he then files in the United States Land Office his “declaratory statement ;” that is a document setting forth that he has selected a certain piece of land, describing it, together with the date of his settlement, the fact that he is a citizen, or has legally declared his intention to become a citizen, his age, etc. After three months he must appear at the United States Land Office, with two witnesses, where a trial is had and proof made on oath before the Land Officers that he has complied with all the provisions of the pre-emption law. If the law has been complied with he then pays \$2.50 per acre and a receipt is given him ; in a year or two a patent is received and he returns his receipt and obtains the patent for his land. No man can obtain from the Government, by pre-emption, more than 160 acres of land and having received this his privilege is exhausted.

There is one other way by which a person can obtain lands from the Government—on even numbered sections within the railroad reservation—and that is, by filing a homestead claim on eighty acres. As in the case of pre-emption, he must erect a dwelling, live on, and cultivate the land; he must then file in the U. S. Land Office his declaration of homestead, setting forth substantially the facts as in the case of pre-emption. On the day he files, he receives a homestead certificate. If he continue to live on the land and cultivate it for five years, from the day of filing, he can after that time, make proof of the facts as in the case of pre-emption, and if the law has been complied with, he returns his certificate, and in time will receive a patent without other expense, except the fees of the officers and the fees of an attorney, if necessary that one should be employed. Pre-emption cannot be for more than 160 acres, nor a homestead for more than 80 acres on Government land within the railroad reservation. Neither the pre-emption nor homestead can be abandoned, sold, mortgaged or leased until after the patent is issued. On the other hand, the purchaser from the railroad is not limited as to quantity, and when the money is paid and the deed issued, the land is his in fee simple to do with it as he pleases.

POLICY OF THE COMPANY.

This has always been to dispose of their lands at low prices and on easy terms, preferring to sell first those near the line of the road, and to men who will live upon and improve them. All communications relating to this subject should be addressed to B. B. Redding, Land Agent, Central Pacific Railroad Company, Sacramento, Cal.



NAVY YARD AT MARE ISLAND.

CHAPTER IV.

Solano County; Vallejo. Napa County, Calistoga Springs. Fresh-Water Tide Lands. Lands in the Great San Joaquin and Tulare Valleys. Remarks of Dr. R. P. Ashe. Choice Tracts of Land for Sale. San Luis Obispo County.

SOLANO COUNTY.

In this county there is a good deal of superior farming land now in the market, offering at moderate prices. A large proportion of this land is owned by Gen. J. B. Frisbie, who has always manifested a spirit of liberality and fairness in the disposition of his lands. This gentleman is also largely interested in the eligibly located and prosperous town of Vallejo, situated on the eastern side of Napa bay, twenty-three miles north from San Francisco. It contains about 5,000 inhabitants, and since 1866 the growth of the place has been rapid, the annual increase in the population having been estimated at thirty per cent.

During the year 1869 three hundred houses were erected, and preparations are being made for the construction of many more. The site of the town is composed of low hills, with gentle ascent near most of the water front, back of which is a valley extending northward forty miles to Calistoga, and south-eastward are gently rolling hills reaching to Benicia, six miles distant. The valley in the rear of the town, where the heart of the future city is likely to be, has enough natural slope to furnish convenient drainage. Four miles east of Napa bay is the Diablo ridge of the Coast Mountains, 1,000 feet high, furnishing a picturesque background, and offering, in the valleys at its western base, a number of beautiful sites for elegant country residences and fine farms. The harbor is four miles long, a quarter of a mile wide and four fathoms deep at low tide. It looks narrow, but is as wide as the harbors of London, Antwerp or Hamburg. The holding ground is excellent, and the protection against the winds almost perfect. It is deep enough for any vessel that sails the Pacific. The establishment of a Navy Yard on Mare island, immediately opposite Vallejo, may be accepted as proof that the harbor is unobjectionable for the largest vessels. The water front is well adapted for convenient use. The distance from the solid npland to deep

channel is not great in any place, and in some spots it is not more than sixty yards, so that wharves to accommodate the largest vessels can be built at little expense, and warehouses can be erected near the shipping without much filling in. Seven wharves are already in use and there is room for a great many others. Access by water is convenient from nearly every direction. Napa bay is the natural head of ocean navigation on the waters tributary to San Francisco bay, which is not only the centre but the monopolist of all the foreign commerce of the Pacific coast from the gulf of California to the strait of Fuca. Suisun bay is a considerable body of water and lies further inland than Napa bay, but it is shallow, and no vessel drawing more than six feet can ascend the Sacramento or San Joaquin rivers in September at low tide. Access by land to Vallejo is also convenient. It stands near a narrow strait, which separates the deep from the shallow waters, the ocean from the river navigation of the State. To this strait converge nearly all the valleys of the interior, and all the streams of the western slope of the Sierra Nevada, between Fort Tejon and Goose lake, a distance of more than 500 miles. It is a focal point from which wagon roads and railroads can radiate in every direction on level routes.

The California Pacific Rail Road runs from Vallejo to Sacramento through a fertile district. The route is level and straight, for most of the distance, and is lined by grain fields which stretch away as far as the eye can reach.

The Napa Valley Railroad connects Adelante on the California Pacific Railroad, seven miles from Vallejo, with Calistoga, whence stages run to Russian river and the great natural wonders of the Geysers and Clear Lake. The latter occupies the crater of an extinct volcano, and on its shore is a bank of crude brimstone through crevices in which burning hot sulphureous fumes continually rise with a roaring sound. Half a mile from Clear Lake is Borax Lake, which has no outlet, and is one of the chief sources of the borax supply of the future. Napa Valley is noted for its beauty and fertility. St. Helena, at the northern end of the valley, is the principal brandy district of the State, the grapes grown there being particularly rich in the qualities needed for good brandy. Calistoga, the White Sulphur and the Napa Sulphur Springs are favorite summer resorts.

The Sonoma Valley Railroad, to connect Suscol, on the Napa Valley Railroad, eleven miles from Vallejo, with Healdsburg, in

Russian Valley, and thence to be extended to Cloverdale, Ukiah and Humboldt Bay is to be commenced in the Spring of 1870, and it will bring into Vallejo the trade of a rich district, which has a large area, a fertile soil, a moist climate, abundant timber and excellent pasture, lacking only swift and cheap access to market to become one of the wealthiest and most populous parts of the State. The road is necessary to both Russian Valley and Vallejo, and will undoubtedly be built at an early day. Railroads to cross the Strait of Carquinez, and connect Vallejo with Stockton, Amador Valley and Oakland, are also projected, and with the northern roads previously mentioned will form the trunks on which the railroad system of the State can centre at Napa Bay. For general commerce, both foreign and domestic, Vallejo has every requirement save a large accumulation of capital. As a grain port it already ranks next to San Francisco, on the Pacific coast. The only grain elevator on the basin of the Pacific ocean is at Vallejo, and it has a capacity of 300,000 bushels. As the mud flat in front of the town is very narrow, and wooden piles are not injured by the ship worm, wharves are maintained at little expense. At present wharfage and dockage are free, an important item for those who desire to load or unload vessels there. For ship building Napa Bay has a peculiar advantage in its freedom from the ship worm, so that timber can be stored and seasoned in the water without danger of injury, while the depth of the water and the wide extent of the water front afford many opportunities for launching vessels. Benicia, on the Strait of Carquinez, with a population of 2,000, is six miles southeast of Vallejo, and will in time probably become part of it, for it would seem that the two are destined to grow into one city. The harbor of Benicia is good, and the water front, though it will require a considerable expenditure to prepare it for occupation, will come into use. It is expected that the two towns will soon be connected by a horse railroad.

The Vallejo Sulphur Springs, four miles northeast from Vallejo, is a pleasant summer resort, provided with a number of buildings for the accommodation of visitors. The water is strongly impregnated with sulphur, and the quantity which flows out every day is estimated at 50,000 gallons. The grounds are tastefully arranged, and a grove of trees furnishes grateful shade in the warm days of summer. Projects for a horse railroad and for a macadamized road from South Vallejo to the Springs are under consideration, and it is almost certain that one road or the other will soon be made

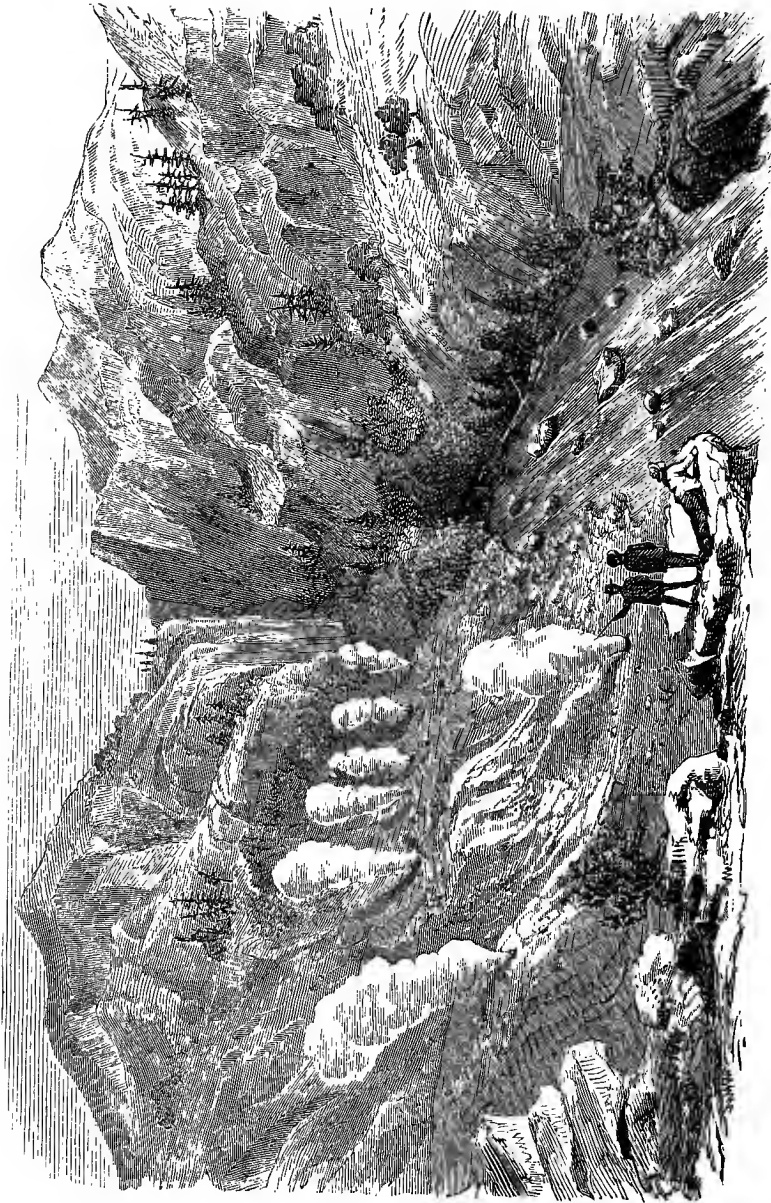
A street railroad to connect North and South Vallejo, which are about a mile apart has been commenced, and is to be finished before the commencement of the rainy season of 1870. A flour mill, to be the largest in the State, has been commenced at South Vallejo.

NAPA COUNTY.

In this county as well as in Solano, there is much good agricultural land for sale; and when we consider the excellence of the climate and the facilities here enjoyed for getting produce to market, it must be conceded that Napa offers as great inducements for immigration as any other county in the State. This county is well supplied with timber affording ample material for fuel and lumber, the northern portion also containing valuable mines of copper, quicksilver and other metals. The vine does well in all parts of Napa, both grape growing and wine making having proved very profitable pursuits for several years past. There is also a great deal of brandy made there from grapes; Brannan's distillery near Calistoga, having turned out about 100,000 gallons during 1869. The brandy made here is of superior quality, selling readily in San Francisco at prices rivaling the imported article. Samuel Brannan has at this place a large and valuable tract of land alike well adapted to grain, fruit or stock raising, portions of it consisting of rich interval and others of hill lands, the soil everywhere being warm and fertile. It is also well wooded and watered, being in every respect one of the most eligible spots in the State for individual settlers or for the planting of a colony.

Upon this tract are situated the celebrated Calistoga Springs, one of the most accessible and delightful watering places in California. In speaking recently of this charming spot and its surroundings, a writer in one of the leading San Francisco journals remarks as follows:

This place, distant from San Francisco seventy miles, in a nearly due north direction, is reached inside of four hours at an expense of \$3.50. The route from Vallejo, forty-three miles, lies through Napa valley, forming, with its broad expanse of interval, land and mountain scenery—the former covered with groves of oak, vineyards, orchards, gardens and fields of grain—one of the richest and most delightful regions in the State. Calistoga itself is a perfect paradise. Nothing can exceed the fertility of the soil, the equable and genial softness of the climate, or the grand and varied



DEVIL'S CANON.

scenery with which it is surrounded. Here the hardy fruits and grains of the north and the luscious products of the tropics grow and flourish with the least possible care. The grape and the apple thrive beside the orange and the banana, and the elm, maple, oak and palm find each a congenial climate. Almost every variety of rare and useful trees, as well as of plants, flowers and shrubs, have been gathered here; the proprietor, Samuel Brannan, a man of liberal ideas and cultivated taste, having spared no expense or pains in improving and beautifying the place. The climate is a perpetual spring, nothing like oppressive heat or severe cold ever being felt here. The waters, impregnated with sulphur and other beneficial agents, possess every degree of temperature, and are highly esteemed for their medicinal properties, rendering these springs one of the most popular hygienic resorts in the country. Calistoga is exceedingly convenient of access, being the only watering place in California having direct railroad communication with San Francisco and the interior of the State. The accommodations also are everything that the most exacting could require—the buildings being spacious and convenient, and the grounds tastefully laid out and adorned, while every manner of recreation and amusement has been provided for the use and entertainment of the guests. The hotel, with the buildings appendant, is a large structure, the dining-room, parlors and sleeping apartments being airy, well lighted, and planned on a generous scale. In a large room devoted to visitors is a museum, containing many strange articles and curiosities collected from all parts of the world; the walls of this apartment as well as several others in the hotel being adorned with elegant pictures and rare paintings, some of the latter highly esteemed as works of art. Adjacent to the central edifice are rows of handsome cottages, for the use of guests, the swimming bath and bathing houses being also near by, with ample barns, sheds and stables in the background. Into this swimming bath, which is forty feet square and some four feet deep, the tepid water is constantly passing, keeping it fresh and at an agreeable temperature for bathing. The entire establishment, forming a capacious villa, is supplied with water from a large reservoir constructed on the mountain side a little way in the rear, pipes leading it over the entire grounds and into all the main buildings.

The scenery in the vicinity of Calistoga is the most picturesque and grand of any in Napa valley. Here the mountains on either

hand, timbered with groves of oak and pine, or green with chaparral, become more bold and broken; those on the north being faced with long rocky terraces and crowned with cliff and crags. Making up their sides are many wild glens, dark with the umbrage of vines and shrubbery, while at numerous points they send out spurs that, running almost across the valley, separate it into deep and beautifully-wooded recesses, fringed with secluded dells, rounded knolls and park-like lawns, surpassing in rural loveliness anything ever produced by art. Whatever we have dreamed of ideal beauty, believed of a primitive Eden, or been told of the classic Vale of Tempe, is more than realized in these beautiful surroundings of Calistoga. The most gifted painter of landscape could delineate nothing more perfect, nor could the most voluptuous imagination conceive of anything more charming. Ten miles off, beyond a low range of hills, Mount St. Helena lifts itself to a height of more than four thousand feet, being the most elevated peak in this portion of the coast range. It is a grand and lovely object, attracting the ambitious tourist to its summit, whence a vast expanse of land and ocean can be seen; or drawing the adventurous sportsman to its well-wooded slopes, which abound with grizzlies, deer, hare and various other kinds of game. In fact, the mountains all about this place afford good hunting ground—squirrels, coons, rabbits and quail being at all seasons of the year plentiful.

Upon substantial improvements and the embellishments of this place, and the estate connected therewith, Mr. Brannan, one of the oldest American residents and public spirited citizens of California, has expended over \$250,000; the property being in every respect one of the most valuable and attractive in the State.

FRESH WATER TIDE LANDS.

Owing to the dryness of the summers in California, causing an occasional partial failure of cereal crops and a rapid exhaustion of the soil, from the impossibility of fertilizing it with crops of green grass, the tide and overflowed lands about our bays, and more especially our Fresh-water Tide Lands, become by far the most valuable of any in the State. Foreseeing their great prospective importance, the Legislature adopted measures at an early day looking to a proper system for disposing of and reclaiming these lands, and under which a considerable portion of them having already been sold, have since been brought into a productive con-

dition. The first effort of this kind undertaken on a large scale, the reclamation of Sherman Island, having resulted in a complete success, has tended to encourage further enterprises of the kind, the most extensive being that of the Tide Land Reclamation Company, organized in 1868, with a nominal capital of \$12,000,000, and which has since purchased a tract of 120,000 acres of land similar to that on Sherman Island, the reclamation of which is now about completed.

Although there are several million acres of swamp and overflowed land, generally designated "tule," in California, there is not to exceed 200,000 acres of what can properly be termed *fresh water tide lands*, as favorably located, and as valuable when reclaimed, as Sherman or Twitchell Island. By drawing a line on the map across the San Joaquin at Stockton, and five or six miles above the head of Steamboat Slough, on the Sacramento River, and just below Sherman Island, where both rivers meet, and the within area will embrace all the lands of that character in the State.

By the action of the tides, which rise and fall from four to six feet every twelve hours, the water is kept pure, and self-acting tide-gates can be used for drainage or irrigation, at pleasure. The trade winds during the summer months are pleasantly modified, but always invigorating; and these beautiful islands, with the charm of perpetual verdure, are exempt from fevers and malarious diseases generally, and are destined in a few years to be the most densely populated and valuable agricultural lands on the Pacific Coast. Being free from roots or stones, and generally on a uniform plain, they are admirably adapted for steam cultivation. The Tide Land Reclamation Company propose at an early day, to use the steam plow, with stationary engines.

The character of the soil is peculiarly adapted for levees, and should they be covered with water during an extraordinary flood, (as in '61 and '62) little or no damage would be sustained. Within a few years, our markets will be supplied from these fresh water tide lands, with fine clover and timothy hay, which can be placed in San Francisco, owing to the advantage of cheap water transportation, and three or four crops yearly, at greatly reduced rates from what is generally paid for the poor article of straw hay that we are now compelled to use.

The question is, what products from these lands, when reclaimed, will be the most profitable? Will it be wheat, which matures in one hundred days, and yields from sixty to eighty bushels per

acre? Barley, that in less time reaches one hundred bushels per acre? or timothy or clover, that will crop eight to ten tons of hay annually? Vegetables and fruits grow in such abundance, that the market might be overstocked. It is believed by those familiar with the subject, that rice would find it a congenial soil. Ramie, madder, sugar-cane and cotton will probably soon be tested in a small way. As pasturage either for stock or dairy purposes, these lands have unequaled advantages.

Immunity against drouth, healthful and pleasant climate, inexhaustible productive powers of soil, and cheap transportation, are sufficient inducements to secure their reclamation, and in few years they will be pointed to with pride, as constituting a great portion of the agricultural wealth of the State.

The following extracts from a report recently made by General B. S. Alexander, to this Company, will serve to more fully illustrate the character and value of this class of lands:

1st. The Company may rest assured that all their lands are in fresh water. The line of brackish water is at the lower end of Sherman Island, at the confluence of the Sacramento and San Joaquin rivers, and the head of Suisun Bay. This point is about six miles below Twitchell Island, which is lower down the river than any other land of your Company. The water in the rivers and sloughs above this point rises and falls with the tide and is always fresh.

The natural productions of these lands are a convincing proof of this fact. We find tules, flags, grasses and wild clover. The margins of the sloughs being covered, in many places, by willow, sycamore, ash, alder, grapevines, and blackberry bushes.

2nd. The sloughs which intersect these lands, instead of being objectionable, as they are popularly regarded, are a positive benefit, because they afford natural drainage. By damming them near their mouths, and putting in drainage gates, we are enabled to convert the channels by which the land was formerly overflowed, into *channels* by which it can be drained; thereby making the drainage, so far as they are concerned, natural instead of artificial; and thus greatly reducing its cost.

3d. The lands of your Company being between high and low water of the tides, the facilities for irrigation, when the land is reclaimed, will be as nearly perfect as it is possible to make them, because irrigation can then be effected without cost, by merely opening the drainage gates, which, for this purpose, may be called

flood-gates, and letting the flood tide into the drainage ditches, exactly to the height that may be wanted, and then closing them. Fresh water, in any quantity, can thus be brought over these lands, or to within an inch, or a foot or two feet of the surface, as may be wanted, every day of the year, by merely attending to the opening and shutting of the tide-gates.

Irrigation will not probably be much wanted on these lands for the cultivation of grain, but for vegetable gardens, for grasses and for rice it will become of the first importance, particularly during dry seasons. The importance of this irrigation, and the certainty of a crop from these lands every year, deserve to be duly considered. If properly reclaimed, the tide lands of the lower Sacramento and San Joaquin rivers would feed this whole State, even when its population amounts to millions, and the production would be certain without regard to the rain-fall on the plains and valleys. The snows of the Sierra Nevada mountains are an independent and unfailing source of supply to the waters of the rivers, which have only to be appropriated in the manner proposed to make the production of the land certain, and secure unfailing crops even in the driest seasons. For this reason, if for no other, your Company, as well as others engaged in similar enterprises, may safely ask the patronage of the public, if not the fostering care of a State where the average rain-fall is only about half the average of Eastern or European States.

4th. It will be seen from my more elaborate engineering report that the expense of securing these lands against extraordinary inundation is not great, when compared with the increased value of the lands; and when we consider that the most productive and valuable lands in Europe are the reclaimed lands which were once overflowed, it does not require much imagination to foresee the day when these lands will call for *absolute protection* against all floods. In the meantime such protection is not necessary to the productiveness of the land. Partial protection, however, will be desirable for farm houses and barns, and for the security of stock. This protection will not be very costly, for it will be a simple matter to throw up artificial mounds upon which to erect houses and barns, and where stock may be kept in entire security during the few weeks of floods.

5th.—When such mounds are made, and the land even partially reclaimed, it will present great advantages for homes.

The whole lower country of the Sacramento and San Joaquin is fanned by a gentle breeze during the day, and the nights are cool.

There will be no local cause of disease, at least after a few years of cultivation; it will be free from mosquitos; the air will be pure, and the country clothed in eternal verdure.

6th.—One other matter which the farmer will examine with great satisfaction, will be the advantages of freighting.

The lower San Joaquin river and most of its sloughs are fine navigable waters, leading directly along side of, and in many cases into, the future farms.

If we assume the product of an acre to be ten tons, such product could be delivered on the wharf in San Francisco for about ten dollars; whereas, if the same product had to be hauled, say ten miles on a wagon, an addition of four dollars per ton would become necessary, or on such a product of ten tons, an addition of *forty dollars*.

This difference in the profits of the product of an acre of these lands situated alongside of fine navigable waters, and lands situated ten miles distant from such waters, becomes therefore of the *first* importance to the producer as well as to the consumer.

Mr. Sherman Day, U. S. Surveyor-General of the State of California, another able and experienced civil engineer, in a report to the Company on these lands, observes that there are no salt marshes within the limits of their claim. The ordinary tides wet the lands when not leveed, but do not overflow them except at the spring tides, and then only a foot or so on the lower portions, in hollows, and along the bayous. The width of the delta and the expanse of Suisun bay permit the waters of the up-country floods here to spread out, and limit themselves to an extreme height of about five feet above ordinary high tide, or ten feet above low tide. At Sacramento the official gauge is marked at twenty-three feet above low water, showing a marked contrast to the moderate heights of the tide lands.

It has been ascertained by the experience of the inhabitants of the lower islands, such as Sherman's, Twitchell's, Bolding's and Andrew's islands, that a levee of three feet above the natural surface will keep out the tides and *ordinary* floods. For the overwhelming floods, like those of the winters of 1861-62, and of 1867-68, when the mountain floods combined with unusual tides and heavy winds to shut up the waters above the Straits of Car-

quinez, an embankment two or three feet higher is required, and not only higher, but wider on the top and at the base.

There is an advantage to be derived from the daily influx and efflux of the tide, combined with the freshness of the water on these lower islands, which is not shared by the lands further up the rivers. Rice and other plants needing irrigation can be cultivated here and be irrigated by the tidal flow.

I have noticed four different varieties of soil among these lands: 1st. The coarse peat formed by the large roots of the tule, decomposing into a rich, black vegetable mould of unsurpassed fertility. 2d. A stiff blue clay, with more or less alkali in its composition, derived mainly from the wash of the hills of the cretaceous formation, and usually found in the marshes nearest the uplands it forms a strong, durable soil for permanent grasses. 3d. A yellowish brown clay, the product of the rivers when muddy. This is a strong and very productive soil, as may be seen by the growth of tules and rank grasses, willows and alders. 4th. A light, loose sandy soil, deposited here and there by the eddies of all rivers, and especially adapted to the growth of garden vegetables, Indian corn, broom corn, and fruit trees.

There is no room for doubt as to the superabundant fertility of the tule soil when reclaimed and subjected to one or two years' cultivation. Its rank growth without cultivation testifies to that. I scarcely know of any vegetable production belonging to temperate climates, which will not grow there.

Wheat, barley, oats, timothy, clover and alfalfa are all successful crops. The native grasses are coarse, but easily give place to more choice varieties. And to enumerate the garden vegetables which I have seen growing there, would be merely to copy a seedman's catalogue. In visiting a friend's family, I was surprised to see how many of all the luxuries that graced the table were the products of the farm. Drought is unknown. Fruits, large and small, of many kinds, I saw growing luxuriantly. The sycamore, oak, alder, willow and hazlenut are natives along the banks of the sloughs; and the elm, the locust and other trees suitable for fencing, can be easily introduced. As for flowers and ornamental vines, the main difficulty is to prevent their superabundant growth.

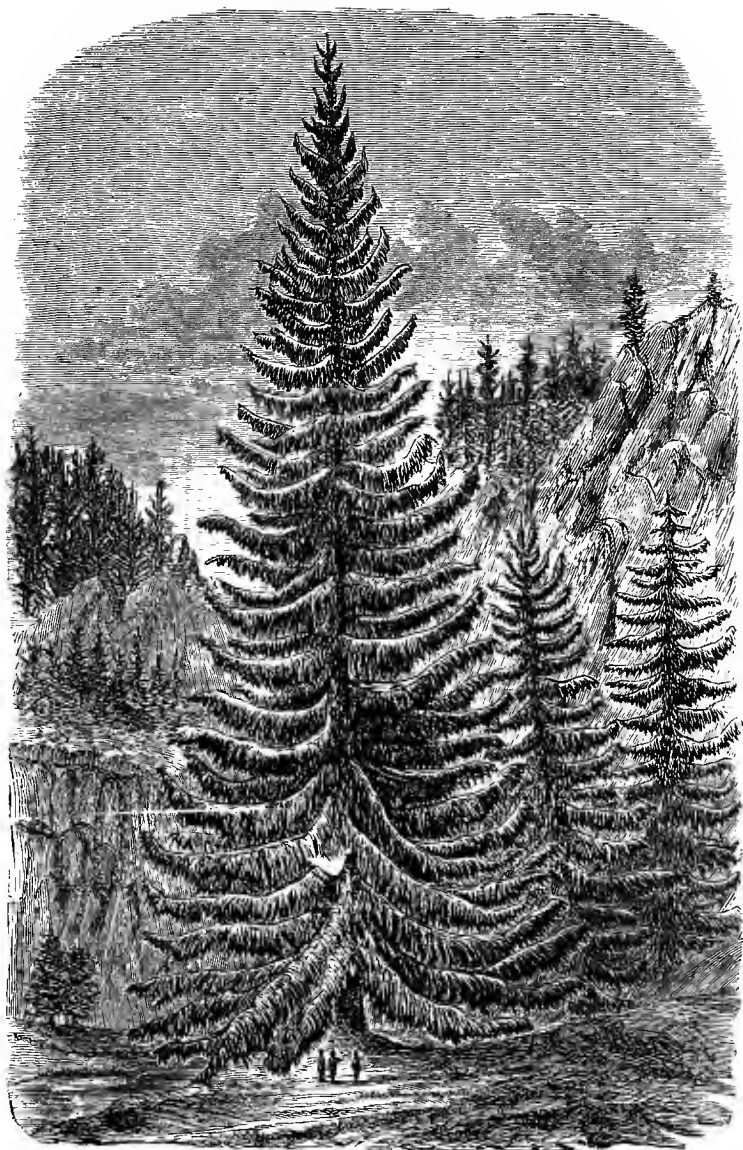
Of pasturage, there is no end. Neat cattle, horses, hogs, and fowls of all kinds, do well upon these lands, if properly cared for in wet weather and floods. Sheep also are easily fattened, but they require more special care here than on dryer lands.

Notwithstanding some of the inconveniences of so moist a soil, and the necessary isolation from a large circle of neighbors, I have generally found the people living on these islands contented with their residence, so far as enjoyment of health and cheerfulness was concerned, and their confidence in the productiveness of their lands, and the superabundance of the supplies of life. A refreshing breeze, which promotes health, sweeps every day over these open plains; and after close inquiry I could not find that the people were more subject to bilious diseases than those dwelling in any newly opened upland district.

The main source of discouragement among them is the want of sufficient capital to contend, single handed, with the floods, in addition to the usual cost of stocking and improving any new farm; and the difficulty of acting harmoniously in carrying out any extensive system of engineering, either under the State law, which is utterly inadequate, or under any plan of private association. Various causes of disagreement will arise. Some will insist always on their own way or none. Some will let others pay the money and hang back themselves, but still expect to enjoy the benefit of the work of others; and some will eternally shove in legal quibbles to block the way. Some will be poor but willing, and have their lands mortgaged to creditors who are rich but unwilling, until they can foreclose.

The only efficient way of dealing with these lands seems to be by the ownership of a whole island or levee district by one man, or by an association. This man, or association, must have capital fully sufficient to master the engineering problems of the enterprise; and common sense and confidence enough in the ultimate result not to be discouraged by occasional failures in details. Some well devised, carefully studied, plan of engineering must be adopted; cheap labor must be had, probably Chinese, and energy and economy must pervade the management. The work may be greatly aided by machinery for excavating and ploughing. Whether steam power or horse power shall be used, is for your engineer to determine. To supply fuel for steam you have the coal mines of Black Diamond and Pittsburgh within sight of your lands, and cheap transportation by water.

In short, I know of no soil more productive; none more easily watered or less subject to drought. The cost per acre of reclaiming the land is slight compared with its intrinsic value. The title is derived from the State. The lands lie in the very heart of the



DOUGLASS SPRUCE.

State ; at no place more than 30 miles from a railroad, and generally within 15 or 18 ; by steam navigation, averaging about 60 miles from San Francisco. The sloughs which penetrate the lands give facilities for navigation, for drainage, and for flooding—if provided with gates.

LANDS IN THE GREAT SAN JOAQUIN AND TULARE VALLEYS.

An immense plain extending nearly 300 miles south from Stockton forms the above valleys, consisting mainly of superior grain lands. Considering its geographical position and vast extent ; its interior resources and magnificent surroundings, together with its economical adaptation to the wants of man and the comfortable subsistence of a large population, these valleys represent one of the grandest sweeps of country on the shores of the Pacific ocean.

In discoursing upon this region, the *Stockton Independent*, one of the most able and reliable of our interior Journals, remarks as follows:

The basin of the San Joaquin river and its tributary streams contains the largest area of arable and pastoral lands, in a connected body in California. Its watershed reaches from the dividing summit of the Sierra Nevada chain of mountains on the east, the Coast range on the west and south, and the dividing streams of the Sacramento river on the north, embracing the counties of Kern, Tulare, Fresno, Merced, Stanislaus, San Joaquin, Mariposa, Calaveras and Tuolumne. Its shape is that of a parallelogram whose greatest length is 250 miles, running northwardly ; greatest width 140 miles, with an area estimated at 24,000 square miles, or 15,360,000 acres, diversified into tillable, pastoral and mineral land. A more minute division shows, approximatively, 1,000,000 acres of salt marsh and tule lands, 5,000,000 acres of mineral and mountain lands, leaving over 9,000,000 acres that are adapted to cultivation or pastoral purposes, a small quantity only being supposed too sterile for economical uses. The San Joaquin Valley proper, embraces about one-half of this territory, the wide foothills and higher elevations of the Sierra Nevada range occupying the remainder—the low altitude and abrupt rise of the Coast range forming only a narrow plateau. The foothills and lower elevations of both ranges possess many table lands and small valleys adapted to the cultivation of the vine and to horticulture, or to sheep husbandry. On their sunny slopes the grape and table fruits

attain rare perfection. The land in the northern portion is nearly all adapted to tillage, with or without irrigation, and is moderately well watered by numerous perennial streams, and by the San Joaquin river. It is level or slightly undulatory, only a few feet above tide-water, with an occasional low, gravelly knoll and sink or depression, to diversify the general monotony of the landscape. Little timber occurs even along water courses, and that of a poor character except for fuel. This northern portion embraces the finest lands for the cereals and plants of temperate climes, within the valley, which will approximate half its arable extent. The southern portion of the valley presents a more arid surface and sterile soil, broken up by fresh-water lakes, extensive swamps, alkaline deserts and detached groups of hills and mountains. The river bottoms are extremely fertile, but contiguous to the San Joaquin river and Tulare lake, extensive swamps exist, that require reclamation before they become adapted to tilth, when their fertility is exuberant. The San Joaquin river meanders its tortuous course nearly centrally through over one-half the length of the valley, and from the eastern slope receives all of its tributaries of any moment, the low elevation of the Coast range giving origin to only a few small winter streams. The general topography and geological features indicate that this valley has been the bed of a vast inland sea, whose tranquil waters for ages have received the wash and wear of the surrounding mountains, until at the northern and lowest depression deposits of diluvium thousands of feet deep have been made, which have been superimposed by the present soil during the subsidence of the waters. The foothills also bear traces of having been water-worn by some mighty stream, and are covered by gravel, decomposed lava, and the humus of ages. From their bases the land gently descends, and does not lose its volcanic soil until reaching the general level of the plain. No great convulsion of nature has ever upheaved the valley from the peaceful condition the gradual subsidence of waters left it in, but it lies placid and serene as a sleeping child awaiting some event to waken it into life and action. The soil of the whole valley is very unequal. In the upper portion, rich sandy loam, adobe, red ferruginous and sterile gravelly soil, may all prevail on the same mile square. But the prevailing constituents of the soil render it the finest land for the cereals and fruits of temperate and semi-tropical regions on the continent. In the southern section, and along the foot hills, certain specialties of production are highly favored.

The San Joaquin Valley may be said to possess no picturesque scenery. Like the prairies of the West, it is a vast undulating plain or dead level, with an occasional tree, or park, of oaks to diversify the general monotony.

The Coast range does not exceed an average altitude of 3,000 feet, and in fertile portions is covered to the summit with wild indigenous oats that give to them in the spring season a peculiarly lovely grandeur. The plains at this season are clothed in green verdure, into which intermingles the golden lily and myriads of native wild flowers. In Tulare county, along the Kahweah and King's rivers, the virgin soil gives growth to beautiful groves of cottonwood and sycamore, and their margins are fringed with perennial verdure.

The climate throughout this region, as before mentioned, is extremely healthful, and though the weather is warm during the summer it is for the rest of the year delightful, no snow ever falling, or ice forming in any part of this valley.

AGRICULTURE AND PRODUCTIONS.

The large extent, undoubted fertility, and known capabilities of the lands of the San Joaquin Valley, give assurance that Agriculture will become the predominant interest of its people.

The principal staples which the soil and climate of this valley favor are the cereal grains. Wild oats are indigenous to the country, and on lands allowed to run wild, will run out other small grains, but are cultivated only as a forage plant, which, cut while green, makes excellent hay. Barley also thrives well, and in a green state, is often cut for hay. But the great staple, from being the "staff of life," and the ease of cultivation over other products in this climate, is wheat. In a moderately rainy season it is capable of perfecting its growth before the heats of summer have evaporated the moisture from the roots, and a crop is nearly sure of being made. No disease, rust, or insect harms the grain, although smut was in early days very prevalent, but by proper treatment has nearly disappeared. There has always been a good demand for the surplus crop of this cereal, in the mines and for export, and its cultivation has been profitable.

Cotton cultivation has been experimented upon in Fresno county, and in the Tulare Basin, where the yield has averaged 500 pounds to the acre of a fine textile fibre. Undoubtedly, there is

much land in the southern section of this valley that can, and will be, employed profitably in this culture, when cheap transport to markets is obtained. Several thousand acres have been raised, and no room for doubt is left that California can produce all the cotton required for home fabrication.

The rich river bottoms and tule lands of the San Joaquin river and Tulare lake are known to be finely adapted to the tobacco plant, being fertile in nitrogenized elements ; but for lack of reclamation have not been cultivated to any extent in this plant as yet. Enough has been done to show that soil and climate highly favor the tobacco culture, and that at no distant day it will become a popular staple of agriculture. The leaf makes a superior article for smoking—probably not inferior in flavor and nicotine principles to the best Virginia—and undoubtedly will make an equal article for chewing, in the hands of experienced manipulators.

The overflowed lands in San Joaquin county produce an indigenous millet or rice, and the swamps of the Tulare Basin have a similar wild species, which annually attracts millions of geese, ducks and water fowl as winter feeding grounds. No efforts have been made to cultivate the domesticated plant, although there is every natural guaranty for success. Cheap and experienced Chinese labor should secure its extensive cultivation.

Hemp and flax are indigenous to southern California, and on the moist, loamy bottom lands thrive luxuriantly. The textile fibre of these plants appears lacking in strength, and flax is only, but quite extensively, cultivated for the oleaginous properties of the seed. The castor bean is also raised in considerable quantities for its oil.

The following letter from Dr. R. P. Ashe, a man of education and superior judgment, and long a resident of the San Joaquin Valley, contains so much reliable information in a small compass, that we can hardly do better than present it to our readers entire. Says that gentleman in answer to a letter from a friend in the Atlantic States making inquiry as to the character of that section :

I have been engaged in actual farming operations in this State for the past sixteen years—the facts and figures I shall give you are such as have been drawn from my own experience, and wherever there may be a doubt upon any question, I shall so calculate as to throw that doubt against the farmer.

Remember that, where not otherwise stated, all figures represent



GENERAL VIEW OF YOSEMITE VALLEY.

so much gold and silver coin—the precious metals being the only currency we have in California.

The arable lands immediately around the city of San Francisco, and within a few hours travel of that metropolis, are cut up into small farms—are highly improved as orchards, vineyards, market gardens, etc., and command a high price per acre—\$20 to \$100. These lands are out of the question for immigrants.

In the valley of the San Joaquin, where I reside, there are now from 300,000 to 400,000 acres of rich prairie lands uncultivated. These lands are situated on or in the immediate vicinity of the San Joaquin River. The river is navigable to Stockton, and for some distance above, at all seasons of the year, and these lands can be reached from San Francisco by steamboat and wagon, in from twelve to fourteen hours.

Part of these lands are still the property of the Government, and a portion have been reduced to private ownership.

According to locality and quality of soil, these lands can be bought from individual owners at prices varying from \$1 to \$5 per acre. Such as is still public land can be pre-empted at \$1.25 per acre in greenbacks, or settled upon as a homestead, and title gratuitously obtained after five years actual residence.

The climate of this valley is unsurpassed for comfort and healthfulness; we have no cold weather, and but little of what is known in the South as warm weather. The only change in our seasons is from wet to dry—the former commencing generally in October or November, and continuing until April. During this period we have no more rain than falls in North Carolina in the same month. In the summer—that is, from May to November—we have no rain. Our friends in the East will bear this last fact in mind, as it has a material influence upon farming operations. In harvest time we have no fear of damage to our crop from a shower, or its destruction by a storm; we lose no labor on account of rainy days; we can dispense with barns and cribs; our crop can remain in the field in sacks until sold, and there are many other advantages which will readily suggest themselves to any practical farmer.

There is no country in the world where a man can live more exempt from disease than in this; there is none where he can more rationally enjoy life, and I think that I can demonstrate that industry and energy can be and are as amply rewarded for their efforts here as in any known part of the habitable globe.

The large tract of uncultivated land to which I have referred is fertile ; it produces wheat, barley, oats, rye, grapes, almonds, and all kinds of fruits and garden vegetables in perfection and profusion ; upon the low lands bordering upon the rivers and creeks Indian corn is raised, but wheat is *the* crop.

To get at the practical farming operations, we will suppose an immigrant who has the means to purchase and settle six hundred acres of these lands ; we will examine into his necessary outlay, the work he will have to do, and his probable receipts :

Six hundred acres of land will cost him	\$1,500
His necessary building for a small family	1,000
Six horses, a gang-plow and harness	600
Wagon	250
Total	<u>\$3,350</u>

With this he is ready to commence operations in October. One man with the six horses and gang-plow can break up, sow and harrow in 300 acres of wheat. If this labor be hired it will cost him from \$30 to \$40 per month, or a total of \$120. It will cost \$100 to feed the horses while putting in the crop, and \$20 for new plow points or repairs to old ones, and \$150 for the seed wheat for 300 acres. His wheat is now seeded at an expense of \$390 ; his horses are turned into a pasture at a trifling cost, and they take care of themselves until they are needed at harvest, and the farmer has no further expense to incur as to his farm until the wheat is ripe in June. He can then, by furnishing the contractor with the use of his (the farmer's) horses and wagon, contract to have his wheat harvested and stacked for \$1 per acre, and threshed at 10 cents per bushel.

The grain has never been worth less than 65 cents per bushel, as it comes from the thresher, and if the farmer will sack it and can hold it during the summer and fall he can safely calculate upon 90 cents per bushel, besides enough over that amount to pay for the sacks.

In my sixteen years experience, we have had one year of total failure of crops. Leaving out this and calculating for all partial failures, the land which I have described will average for the past sixteen years from 9 to 20 bushels of wheat to the acre, and in many favored spots the average is more than double these figures. We will take the average production of 12 bushels to the acre, and the lowest price of 65 cents per bushel, and see how stand the farmer's account for his year's operations :

Expenses of planting.....	\$390 00
The harvesting of 300 acres.....	300 00
Threshing of 3,600 bushels	360 00
Total disbursement on his crop account	\$1,050 00
Market value of the crop.....	2,340 00
Net profit.....	<u>\$1,290 00</u>

Now, so far for the first year, and the farmer has only cultivated the one-half of his 600 acres of land. The second year he will sow the other 300 acres and harvest it at the same expense as for the first year; but in addition to that, and without plowing, seeding, or any other expense, except the one dollar per acre for harvesting and ten cents per bushel for threshing, he will obtain a full average crop (by way of volunteer) from the 300 acres cultivated the first year; or in other words, it is not necessary to sow the seed upon the land but once in two years—(sometimes once in three years). The second year it seeds itself. This shows that for the second year the farmer's net receipts are \$2,970, against \$1,290 the first year. The third year he will plow and sow the land cultivated the first year, and so on indefinitely.

Our Eastern friends will at once argue that such a system of farming will soon exhaust the soil. They are mistaken in this. I have pursued the plan for sixteen years, and thus far it has had no apparent or appreciable damaging effect upon the land—it producing now about as well as when first cultivated. I have made the foregoing statement by way of illustration of what a man of moderate means can accomplish in farming. The poor man who settles upon 160 acres of Government land, and who is willing to work, can accomplish results in the same proportion: while a man of more means than the moderately well-off farmer, to whose situation the foregoing calculations were made to suit, can do still better than the foregoing figures were made to exhibit, and for the following reasons:

The man of larger means will, instead of having his crop harvested and threshed by contract, purchase his own machinery, headers and threshers, and do the work himself, and thereby save, say 20 per cent of those expenses; and the rich man can always hold his crop and obtain the 90 cents per bushel instead of selling it for 65 cents per bushel.

I have made no estimate for family expenses; these vary so greatly, and can be made to suit every man's condition and means so exactly, that I will only say upon this subject that a well-regul-

ated, economical family can live here on a farm for about the same expense as in Virginia or North Carolina.

I have purposely omitted in the foregoing estimate to say anything about the cost of fencing. Several neighboring farmers join and build an outside fence, thus rendering the immediate enclosing of the land unnecessary. The Legislature now has under consideration a proposition—which meets with great favor, and will in all probability become a law—rendering it unnecessary for farmers to build fences; in other words, making the owners of cattle responsible for any damage committed by them upon the unenclosed land of another.

Our friends ought to be reminded that we have a thorough and perfect system of public schools in California, and that the children of all can be educated at the public expense. A neighborhood is no sooner formed than it is constituted a School District, with ample provision for the sustaining of as good a school as the neighborhood wants for ten months in the year.

I have written only of the lands in the Valley of the San Joaquin, where I live, and with which I am most familiar; but there are thousands of acres of as good land, as finely located and as cheap, in other parts of the State as in the Valley of the San Joaquin.

Finally, to men of means, and men of muscle, industry and perseverance, there can be no more inviting country than California; but to those men who have no means, and who want to make a living by the so-called respectable employment of clerking, etc., and by easy work generally, this is no country for them. The one I would advise to come and join us in this land of brilliant promise, the other I would most urgently advise to remain where he is.

CHOICE TRACTS OF LAND FOR SALE.

For the information of parties desirous of purchasing lands in the San Joaquin and Tulare country, we will mention a few of the principal proprietors of large tracts who are selling at low prices and on terms that will suit purchasers. John T. Little, of San Francisco, has a parcel of 18,000 acres in Merced county, and another of 160,000 in Fresno county, all held under an United States patent, the best possible title. This land is nearly all level and the most of it a rich alluvial soil well adapted for cereal crops as well as all kinds of fruits and vegetables. The Merced tract



THE SENTINELS, CALAVERAS CO.

is situated near Dover, a shipping point on the San Joaquin river. Mariposa creek, Burns creek and Bear river, considerable streams in the wet season, all flow through this land affording abundance of water most of the season. Through the other tract flows the Fresno river and Cottonwood creek, and their numerous branches. These lands are not only level, but entirely free from stones, or other obstructions, being ready without any previous preparation, for the plow. Portions of them are already settled upon, and have for the past year or two produced immense crops of wheat and other grain. They were all selected by competent judges for their special fitness for grain raising, both the soil and climate being especially adapted to the culture of the cereals. Wheat here is never liable to rust, as it often is, on the best lands, near the coast where exposed to fogs and high winds. The soil where not a deep strong alluvium consists of a warm sandy loam of great depth and fertility, susceptible of culture at almost any time. None of it is swampy or subject to overflow; malaria and its consequent evils being here entirely unknown. The whole country is covered with wild clover, alfilarilla, and other native grasses affording excellent pasturage.

This land is offered by Mr. Little at less than one-sixth of the price asked for that of no better quality in the Coast counties. Mr. Little, besides selling at low prices, gives actual settlers a credit of one and two years for two-thirds of the purchase money.

Besides the streams mentioned, there are numerous springs on these tracts, and water can be obtained almost everywhere by digging from ten to twenty feet. Recent experiments made in this vicinity also demonstrate that water in any quantity can be obtained here by artesian boring. John A. Montgomery, a large cattle owner, occupying an extensive range adjacent to Mr. Little's Merced tract, commenced boring for water in the month of August, 1869, and at a depth of 190 feet struck a large stream of pure soft water, which still continues to run. This water is four degrees colder than the surrounding surface water, and the flowing stream is two inches in depth by fully ten inches in width. Those who have seen and tasted it declare that no clearer or purer water can be found anywhere, and that none cooler need be desired. Although the stream has been flowing for months, and that, too, in the hottest and driest season, there has been no diminution in the supply, from which Mr. Montgomery finds plenty and to spare for watering his splendid herd of 75,000

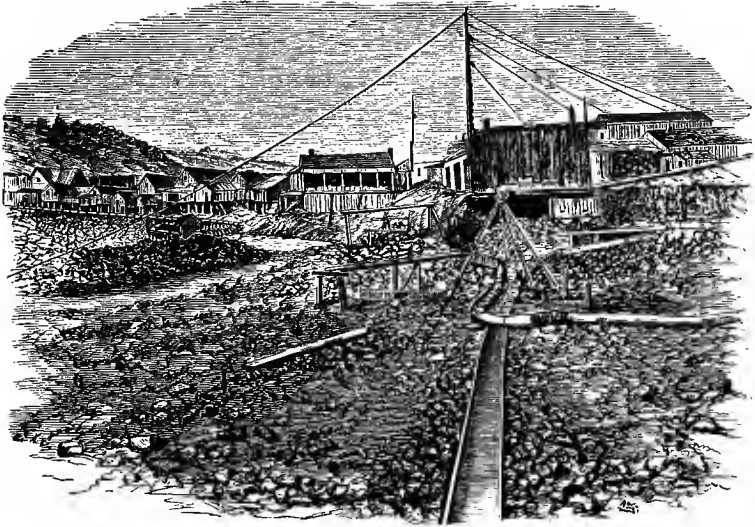
American cattle. At another point, several miles distant, nearly similar results have been obtained. Water has been struck at less depth, and no doubt is entertained but that in the latter case, as in the first, sources will be reached from which a flow to the surface will be obtained. These results establish a fact which will be of incalculable advantage to the great San Joaquin valley.

The railroad, extending from Stockton to Visalia, runs directly through these lands, affording cheap and constant communication with Stockton and the San Francisco markets. The San Joaquin River flowing adjacent, is navigable for some distance above these lands, a good portion of the year also affording the farmer and wool grower a cheap and convenient means for shipping their products to the sea-board. All that has been said of the soil, climate, and other natural advantages of the best portions of the great San Joaquin Valley, applies in all its force to the particular section of it under consideration, and for this reason we would recommend persons in search of lands in this section of country, to apply to Mr. Little, who can be found at all times at his office in the Stevenson Building, S. W. corner California and Montgomery streets, San Francisco.

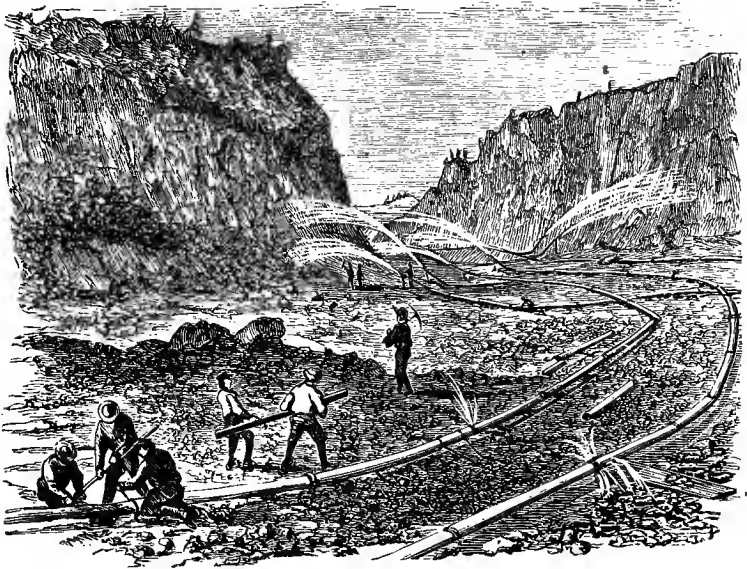
Mr. J. W. Pearson has also a large tract of very superior land located in Kern County, which he is disposing of on terms highly advantageous to settlers. This gentleman has for many years dealt extensively in lands and enjoys a good reputation in this line of business. He has properties of this kind in other parts of the State, and could hardly fail to accommodate parties calling upon him with almost any kind of land they might desire. Mr. Pearson has an office on the south side of California street, two doors above Kearny, in the city of San Francisco, where maps of his various tracts can be seen and full information in regard to them as well as other sections of the State can be at all times obtained.

SAN LUIS OBISPO COUNTY.

The amount of good agricultural land in this county is comparatively small. The county is, however, well adapted for grazing, to which use the most of it is devoted. There is a considerable quantity of fine farming land in the valley of San Luis Obispo, adjacent to the Old Mission and also upon the Santa Marguerita, the Ascension and Astacadero Ranches, all famous for their fine pasturage and the large droves of cattle fed upon them.



DUMP AND SLUICE.



Hydraulic Mining, Timbuctoo Diggings, Yuba Co.

The Santa Marguerita Rancho, owned by Martin Murphy, embraces an area of 20,000 acres, one-half of which is first class grain land, the whole tract being well timbered and abounding with water and grass. For some time past a portion of it has been let for a dairy, a few hundred acres, also, having been planted to grain. To the north of this a short distance are the other two tracts mentioned, a portion of which, amounting to 10,000 acres, has been purchased by Messrs. William and Robert Watt; to which, having added 13,500 acres of government land, the whole is now used as a sheep range, bearing the name of the Eureka Ranch. The whole of this tract, like the Santa Marguerita Ranch, contains a rich deep soil, much of it being suitable for the plow, and the whole affording good pasturage. It is watered by numerous springs, the Salinas river running near the western and the Huer Huero creek near its northern boundary. The proprietors use it for a sheep pasture, having over 10,000 head of these animals upon it. Being well watered and wooded, and growing great quantities of clover, alfilarilla, bunch and other native grasses, it would afford an excellent dairy ranch; the more especially as the grass, besides growing very luxuriantly, keeps green most of the summer. Parties in search of a place for the management of such a business would do well to visit this section of country as one affording great facilities for its successful prosecution.

Great inducements for the dairy business are also presented on Piedra Blanca Rancho, situated near San Simeon bay, Santa Barbara county. This tract of land, consisting of 48,000 acres, owned mostly by George Hearst of San Francisco, is held under a Mexican grant, confirmed by the United States. About 10,000 acres of it is good farming land, the balance affording fine pasturage. Being located immediately on the sea, the climate is extremely healthful and the atmosphere moist throughout the summer, keeping the grass constantly green and growing. Five living streams flow through this ranch, which, with a number of perennial springs, supply all the water required for stock or other purposes. There is regular steam communication between this point and San Francisco every few days, and also good roads reaching to places in the interior. The Piedra Blanca Rancho is well wooded, some of the timber being of large size and suitable for making lumber; this being the only locality in the vicinity where forests of that kind are met with.

CHAPTER V.

Los Angeles County; Commissioner Wilson's Letter. Choice Lands on the Market. San Diego County. Railroads. Map. The California Pacific Railroad. Mineral Wealth. San Francisco. Occidental Hotel. Harpending's Buildings. Bank of California. London and San Francisco Bank. Pacific Insurance Company. Pacific Life Insurance Company of California.

LOS ANGELES COUNTY.

For several years past this county has been settling up rapidly with an industrious and thrifty population attracted to it by the superior excellence of the soil and climate, and the great variety of products that can be grown there with success. For a long time small farmers were deterred from seeking this section of country for settlement, owing to the land being held in large tracts the titles to which were, in many cases, unadjusted, while the owners evinced but little disposition to subdivide their vast possessions, or otherwise encourage the settlement of small farmers or others desirous of securing homesteads. Latterly, these titles having been confirmed and patents issued to the claimants by the United States government, the most of these large grants having, meanwhile, passed into the hands of a more liberal and enterprising class of owners, the latter have had them surveyed into small parcels which they are now selling to actual occupants on very favorable conditions. The following letter from Commissioner Wilson of the General Land Office, in reply to inquiries made by a company of Hollanders seeking information in regard to the southern counties of California, is entitled to the careful consideration of every one interested in the subject, both because of the instructive summary of facts it contains, and the high authority whence it emanates :

Commissioner Wilson's Letter.

UNITED STATES OF AMERICA, DEPARTMENT OF THE INTERIOR, }
GENERAL LAND OFFICE, May 13, 1869. }

ALBERT RHODES, *United States Consulate, Rotterdam, Holland*.—Dear Sir.—In reply to your letter of the 7th ult., requesting information in regard to public lands in Southern California, especially in the neighborhood of Los Angeles, I have to state that the valuable lands in the southern portion of that region, in the counties of San Diego, Los Angeles, San Bernardino, Kern, Santa Barbara and San Luis

Obispo, are, to a considerable extent, held under Mexican grants, many of which have been confirmed by the United States since we have succeeded to the sovereignty of the country. The counties of San Luis Obispo and Kern may form an exception to this statement, as Government land of excellent quality exists in each; but so much has been recently entered under the pre-emption and homestead lands, and located with College scrip, and still continues to be taken, in consequence of a numerous emigration to Southern California within the past two years, that it would be hazardous to undertake to specify the quantity of public land at present subject to entry, as the next returns from the local officers may show the amount considerably diminished. There is, however, an abundance of unoccupied land of the best quality in each of the counties named, which, whether belonging to the Government or in the hands of private owners, may be readily obtained at very moderate prices, generally varying from \$1 to \$5 and upward per acre, according to value.

MEXICAN GRANTS, TITLE, ETC.

Lands in the hands of persons claiming under Mexican grants confirmed by the United States, are perfect as to title. Lands claimed under grants not so confirmed, seldom rate at a high figure; and should the title subsequently fail, and the lands be declared a part of the public domain, the laws of the United States extend to parties in possession under conveyances from former grantees, a pre-emption right to enter the land so occupied at the minimum price of \$1.25 per acre, so that in either event the settler will obtain the land at a very low price. Indeed, at the present day no apprehension need be felt about the title of lands in California, as most of the old Mexican grants, valid and invalid, have passed through the ordeal of judicial investigation, and have either been confirmed, or the lands claimed declared part of the public domain; and even if an occasional claim should be met with not yet acted upon, the Acts of Congress make such liberal provision in favor of *bona fide* settlers that no great injury can result in the event of such claim proving invalid.

An emigrant from Europe, entirely unacquainted with the land system of the United States, or the nature of titles in this country, and the mode of recording them, might be liable to make a bad bargain, unless he fully informed himself. But there are abundant opportunities of ascertaining the condition of the title of every tract of land, and a person of ordinary prudence need not go amiss.

GOVERNMENT LANDS, ETC.

Government lands in California may be taken under the pre-emption or homestead laws, the entries being effected in the manner pointed out in the accompanying circular from this office, dated March 10th, 1869. In the southern part of the State these lands are mostly located to the eastward from the Coast Mountains; but there are, nevertheless, in the western portion of each of the above named counties, small quantities of public land not yet occupied, which may be entered at the District Land Office at San Francisco, excepting lands in Kern county, which must be entered at Visalia, in Tulare county.

GOOD LANDS.

It will be observed that the good lands of Southern California are found on the Pacific, in the valleys and on the foot-hills of the Coast Mountains, extending inland from twenty-five to seventy five miles, embracing an area susceptible of cul-

tivation and admirably adapted to horticulture, equal in extent to the State of Massachusetts.

CLIMATE, PRODUCTIONS, ETC.

The climate of these valleys, some little distance from the coast, is not surpassed in any portion of the world; the intense heat experienced in the arid plains further to the east being modified here by an altitude of several thousand feet above the level of the coast. Numerous streams of water flow through these valleys—many of them permanent—furnishing the means of irrigating large bodies of land. The grape vine flourishes here luxuriantly; more than 6,000,000 being cultivated in Los Angeles county alone, yielding one and a half million gallons of wine, and more than one hundred thousand gallons of brandy, besides large quantities of choice grapes for the San Francisco market.

The grape attains vigorous growth in almost every variety of soil, is remarkably free from disease, and requires no irrigation. It flourishes as well in the foothills and on the sides of the mountains as in the valleys, and produces a stock strong enough to dispense with the necessity of stakes, thus greatly reducing the amount of labor required in a vineyard. A vine is now growing in Santa Barbara county twelve inches in diameter four feet from the ground. At six feet from the ground the stem is divided, the branches extending in every direction, covering an area of 10,000 square feet, and producing annually 12,000 pounds of grapes, in bunches from fifteen to eighteen inches in length, averaging from six to seven pounds each. This vine is of the old Mission grape, and was planted forty-three years ago.

But the soil and climate of these valleys are equally well adapted to the growth of the orange, lemon, lime, citron, fig, walnut, olive, banana, almond, filbert and currant; and wheat, barley, corn, potatoes, cotton, tobacco and sugar-cane thrive well. In an orange grove of 2,000 trees, near Los Angeles, the annual crop averages 1,500 oranges to each tree, some of the trees producing as many as 4,000 each. The sides and summits of the mountains contain an abundance of pine, cedar, hemlock, maple and oak; and deposits of gold, silver, copper, tin, marble, alabaster, asphaltum, petroleum, sulphur, salt and coal are numerous.

THE MULBERRY AND SILK.

Of late years large quantities of mulberry trees have been planted, and preparations are making to commence the rearing of silk-worms on an extensive scale, experience having fully demonstrated the adaptability of the soil and climate of California to the successful prosecution of this industry; the number of trees set out in different parts of the State being already about 4,000,000, and increasing every year. Every variety of mulberry succeeds well, the tree attaining a growth in three years equal to five years in Europe, and yielding leaves in much greater abundance. The cocoons are remarkably exempt from disease, and are nearly one-third larger than those of other countries. This fact has become so well known abroad that a large foreign demand has grown up for the eggs of the California worm, and orders from France, Belgium, Italy and Mexico are constantly being filled to so large an extent as to threaten to retard the manufacture of silk for several years to come.

Two crops of cocoons are raised in the year, in May and July, a season during which the atmosphere of California is almost free from clouds, there being neither thunder storms, wet nor cold spells to check the progress of the cocoons, or to injure

the mulberry leaf, such vicissitude being not only destructive of the health of the worm, but fatal to the quality of the silk it produces.

The extraordinary advantages of the climate and soil of California for the successful prosecution of the two important industries of wine and silk manufacture, are already attracting a large immigration from the localities in Europe, where these branches form leading industries; and with such advantages in favor of these pursuits as exists here, they cannot fail to be carried on upon an extensive scale within the lifetime of many already advanced in years. The counties in the southern part of the State, in which the cultivation of the mulberry has been entered upon are Los Angeles, Santa Clara, and Santa Barbara; but many of the valleys and side hills of the remaining four counties are equally well adapted, and need only an enterprising population to develop their wonderful capacities.

The State of California, with the view of establishing the business of silk making as one of its fixed pursuits, offers a premium of \$250 for every 5,000 mulberry trees, to be paid when they are two years old, and a premium of \$300 for every 100,000 cocoons.

EXTENT, CULTIVATION, ETC.

Of the 4,000,000 or 5,000,000 acres in Southern California adapted to the vine and the mulberry tree, and a great variety of semi-tropical fruits, not much over 100,000 acres are thus cultivated—probably not that quantity; and although that region is capable of accommodating and comfortably supporting a population of 1,500,000, its present population falls short of 40,000.

WINE AND BRANDY—UNOCCUPIED LANDS—A SUCCESSFUL COLONY.

Hundreds of thousands of acres of the finest lands, blest with a climate equal to that of the fairest portions of Italy, are held in extensive tracts under Mexican grants, and are either entirely unoccupied or devoted to grazing; the proprietors, however, manifesting a willingness to subdivide and sell their claims as rapidly as the increase of settlers creates a demand for the same. As an illustration of what may be accomplished by an enterprising colony of settlers, the village of Anaheim, in Los Angeles county, may be referred to. In the summer of 1857, a company of Germans acquainted with grape culture bought 1,265 acres of land in the valley of the Santa Ana river, at \$2 per acre, dividing it into fifty rectangular lots of twenty acres each, with streets between them, and subdividing the residue into sixty town lots—one for each of the proprietors, and ten for public purposes. The lots were all fenced with willows, sycamore and poplars, and about ten acres of each planted with vines. At present there are over 1,000,000 vines growing in this village—most of which are in bearing—already producing annually over 400,000 gallons of wine and some 10,000 gallons of brandy. Of the various kinds of fruit trees, there are more than 10,000. Every one of the fifty lots contains a comfortable homestead, and the village has a population of about 400, with a good public school, several stores, and a post-office in the town. Each of these lots is worth at the present time fully \$10,000, and is continually increasing in value. The history of Anaheim demonstrates the advantage of settlements by colonies. Had each of the original fifty settlers of the village located by himself, cut off from the encouraging sympathy and mutual counsel of congenial neighbors, it is doubtful whether success would have crowned the efforts of one-fourth of their number; but, adopting the colony plan, they have in twelve years advanced to a condition not only of comfort, but of comparative wealth.

There are many opportunities, not only in the county of Los Angeles, but in each of the others named above, and, in fact, in nearly every county in California, to repeat the experiment of the Anaheim settlement, under circumstances even more favorable than existed in that case.

Since 1857, the character of California as one of the best wine-producing countries in the world has been fully established; many foreign varieties of grape have been tested; and much that twelve years ago rested upon uncertainties has been established by repeated experiments; in addition to which the great continental railway from the Atlantic to the Pacific has been completed, opening a market for the products of the California vineyards.

All these advantages, that did not exist when Anaheim was founded, will render the trials of similar colonies much less severe.

Very respectfully, your obedient servant,

JOS. S. WILSON, *Commissioner*.

CHOICE LANDS ON THE MARKET.

In following up the information and advice of Commissioner Wilson, we can hardly do the public a better service than to indicate a few of the large landed estates in Los Angeles and San Diego counties, now being offered by the proprietors on very easy terms.

First we have the magnificent body of land formerly constituting the several ranches owned by Abel Stearns, now the property of Northam, Polhemus and Martin, who have had the same surveyed into townships, sections and the various subdivisions of a section, with a view to accommodate all classes of purchasers. This tract of land lies but six miles east from the San Pedro and Los Angeles Railroad; ten miles east from the port of Wilmington; twelve southeast from Los Angeles City, and one mile in a northerly direction from Anaheim Landing, where steamers regularly deliver and receive cargo. The river San Gabriel runs along the west and the Santa Ana along the east side of this tract, the Pacific Ocean forming its southern front.

The Santa Gertrudes Land Association, McLean and Hardy of San Francisco, Agents, are also offering a body of fine lands for sale in quantity and upon terms to suit purchasers. This tract, originally the Rancho Gertrudes, embracing an area of 25,000 acres, of which nearly one-half is now improved and under cultivation, lies about ten miles southeast of the City of Los Angeles, in the direction of the flourishing German settlement of Anaheim. It is divided into "mesa" or table lands, and alluvial or bottom lands. An option is thus given purchasers to select a farm from either class of land, or, if they desire, secure a portion of each in

one tract. The uncultivated table lands are covered with wild crops of burr clover and mustard, indicating depth and fertility of soil; while the improved lands of this class produce large crops of wheat, barley and rye, and fair crops of corn. The wild bottom lands teem with an almost tropical luxuriance; while thousands of acres have lately been covered with cornfields, yielding one hundred bushels to the acre. One may ride for miles through fields where the corn-stalks on either hand will average twelve feet in height.

The *peculiar* advantages claimed for this tract of land, over others, are the following:

The *Railroad* from Wilmington to Los Angeles passes within *two miles* of the western line of the Rancho, with a Depot at the nearest point.

The Stage and County Road from *Los Angeles* to *Anaheim* passes across the Rancho, and the Ocean landing is only *twelve miles* distant.

A portion of the Rancho has already been sold and cut up into farms, now occupied by enterprising and prosperous families. The large crops this year raised, demonstrate the fertility of the soil; while a purchaser here has the advantages connected with neighborhood and society. An acre of land has been donated, and a public School House erected.

The bottom lands are moist and never suffer from drought, while the mesa or table lands afford good water everywhere, at depths varying from fifteen to thirty feet. Every part of this tract can be irrigated by water brought in ditches from the San Gabriel river running across it. All that has been said in Commissioner Wilson's letter concerning diversity of products, fertility of soil and a genial and healthful climate, applies with special force to the two tracts of land just mentioned; the productive capacity of the soil being as great and their situation in every respect as favorable as any other portion of Los Angeles County.

SAN DIEGO COUNTY,

As well as Los Angeles, has for the past year or two been a strong point of attraction; the commencement of a railroad on the extreme southern route having recently given a strong impulse to emigration that way. It has also been discovered the past few years that the soil and climate in this portion of the State are well adapted to every branch of agriculture, the raising of both fruits

and grain having been engaged in latterly with great success. Large sections of country, formerly supposed to be fit only for grazing purposes, have been found on trial to be good wheat lands, and there is little doubt but that this cereal will soon become one of the staples of this county. Under this new order of things the town of San Diego has advanced rapidly, communication with San Francisco and other points on the coast having kept pace with this growth of trade and population; and rapid as this increase has been of late, it seems probable that San Diego, with the prospect of a railroad across the continent, making this its western terminus, has just entered upon a long career of prosperity and progress. With a vast extent of back country, rich in every variety of mineral, and a fine agricultural region more immediately around it; with a climate unsurpassed for its equableness and salubrity, and a harbor scarcely inferior to any other on the coast, it can hardly fail to grow in commercial importance and advance with rapid strides in the future.

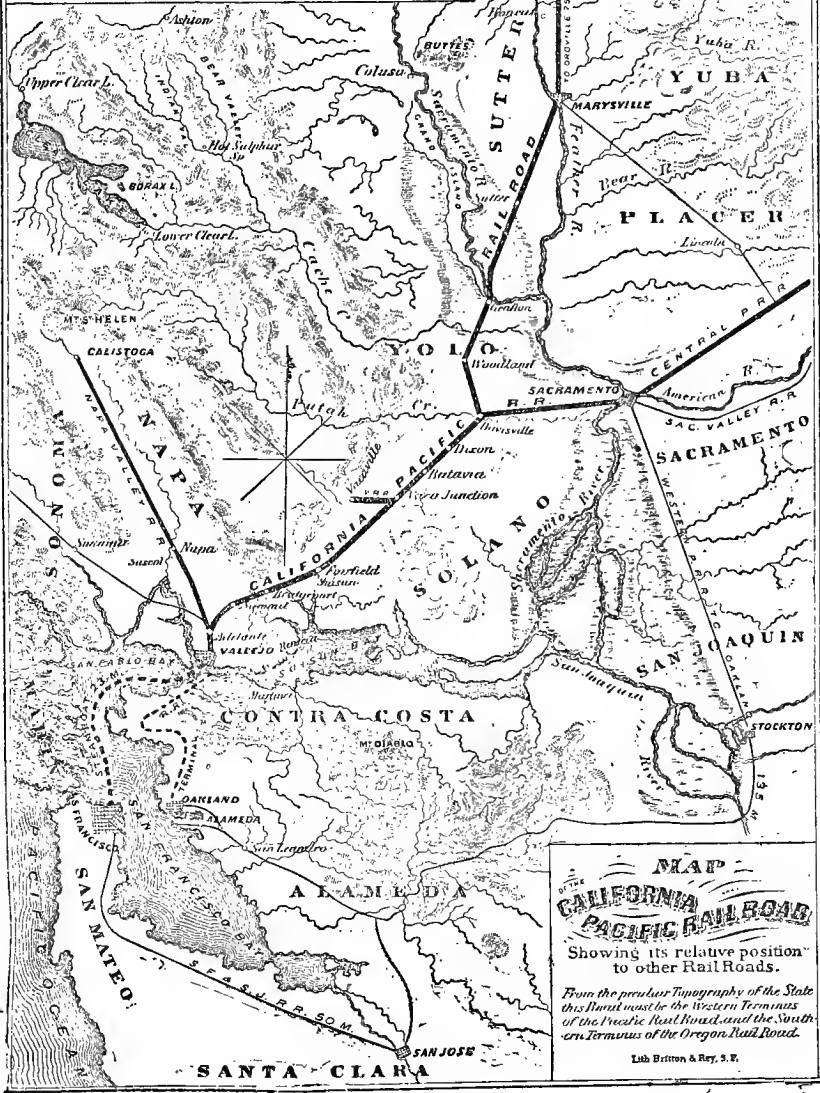
What has tended strongly to attract settlers to that quarter has been the liberal spirit manifested towards this class both by the town and large landed proprietors, who have generously made great sacrifices in the interests of emigrants seeking to settle permanently amongst them. In no part of the State has a more liberal policy been pursued towards those desirous of locating in their midst than by the leading citizens of San Diego.

OUR RAILROADS.

In railroad construction our State is making rapid progress; there being, besides some 600 miles completed and in operation, about 500 miles now in course of building, with a much greater extent projected, a large portion of which will no doubt be completed in the early future. The most extensive and important lines of road now finished, and in operation in the State, are the Central Pacific, the Western Pacific and the California Pacific. The first named reaches from Sacramento City to the eastern boundary of the State, a distance of 640 miles; the second from Sacramento to San Francisco, by way of Stockton, its entire length being 138 miles. This road, but recently completed, is now doing a fair amount of business, with the prospect of a steady and permanent increase.

Distances from San Francisco.

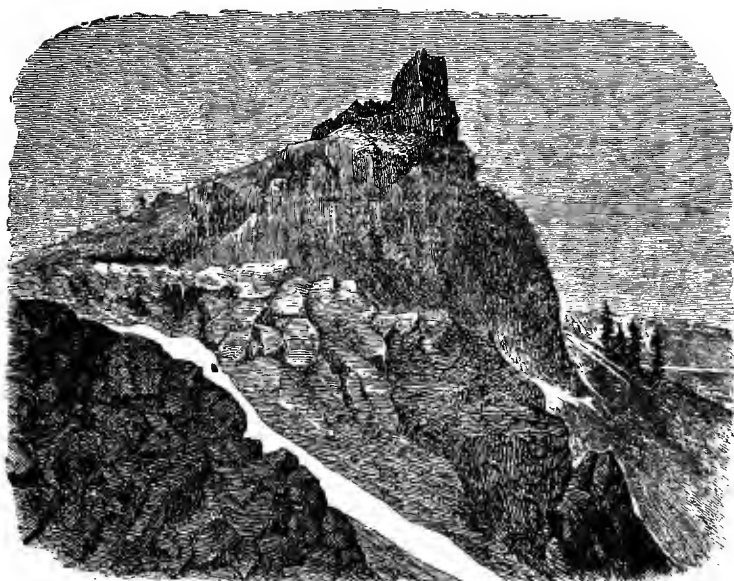
BY WATER.		MILES.
To Vallejo	.....	23
Sacramento	.....	125
Marysville	.....	190
BY RAIL ROAD.		
From Vallejo to Sacramento	.....	60
Vallejo to Marysville	.....	86
Vallejo to Calistoga	.....	42
Sacramento via C.P.R.R. to N.Y.	.....	3000
Marysville to Oroville	.....	30
From San Francisco to San Jose	.....	50
Stockton	.....	125
Sacramento	.....	175
Via Oakland to Sacramento	.....	135
From SAN FRANCISCO via VALLEJO to Sacramento	.....	83



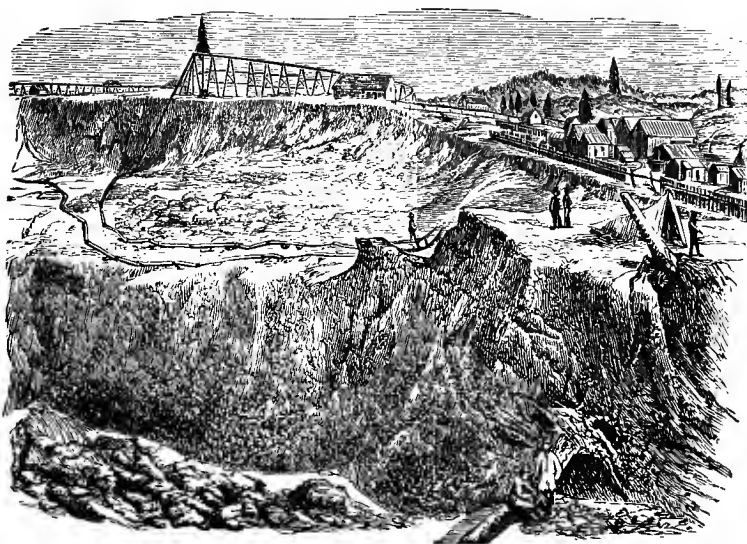
MAP OF THE CALIFORNIA PACIFIC RAILROAD
 Showing its relative position to other Rail Roads.
 From the previous Topography of the State this Road must be the Western Terminus of the Pacific Road Road, and the Southern Terminus of the Oregon Road Road.
 Lath Britton & Rey, S. F.

THE CALIFORNIA PACIFIC RAILROAD.

The initial point of this road is at the deep waters of Vallejo Bay, one-half mile above its confluence with the Straits of Carquinez, opposite the Mare Island Navy Yard. From this point the road extends through Solano, Napa, and Yolo Counties to the City of Sacramento; the entire length of this branch being a little less than sixty miles. The terminus of the road on Vallejo Bay is but twenty-six miles from the Pacific Ocean, and twenty-two miles from San Francisco, with every facility for capacious and abundant wharves, with waters navigable at all stages of tide and wind for the largest ocean steamers and sailing vessels. From Vallejo Bay the road passes through the Suscol Valley, near the base of the mountains separating it from Suisun Bay and Green Valley. At a point nearly seven miles from the terminus, a junction has been effected with the Napa Valley Railroad, which extends for upwards of forty miles through one of the finest wheat-growing sections of the State. From this point the road follows the Suscol Canon, or Valley, now under cultivation, from its bottom lands nearly to the crest of the mountains on either side. It ascends the canon with an average grade of about sixty-six feet to the mile, with curves of large radius, reaching the summit at a low pass through the mountains, the elevation of which is but 305 feet above tide water. Thence it follows the southerly slope of Jamison Canon to Green Valley with light curves and an easy grade, to the town of Bridgeport, on Cordelia Creek, and thence through Cordelia ridge to Fairfield, and into Suisun Valley. Traversing this most fertile and highly cultivated region, the road turns the point of Vaca Hills, passing through a low gap at an elevation of only 92 feet above high tide, into the Sacramento Valley, proceeding by an air line of nineteen miles in length through Sacramento Valley to Davis' Junction on Putah Creek, thirteen and a half miles from Sacramento, crossing a farming country of great agricultural wealth, largely under cultivation and well watered by Ulates, Sweeny, and Putah creeks. From this point the road passes over four miles of tule lands of firm bottom, and nine and one-half miles across a fertile and well cultivated farming country to the Sacramento River; where, by a bridge eight hundred feet in length, it crosses the river into the city of Sacramento to the junction with the Central Pacific railroad. Leaving Davis' Junction the road branches off, crossing the Sacramento river at Knight's Landing and terminating at Marysville. Besides large sections of country further south and east,



CASTLE PEAK.



Hydraulic Mining, Dutch Flat, Placer Co.

the region more immediately tributary to this road, is comprised of Solano, Sutter, Napa, Lake, Yuba, Sacramento, Colusa, Butte, and Placer counties, which have now a joint population of 100,000, their aggregate product annually being 6,000,000 bushels of wheat ; 7,000,000 bushels of barley ; 300,000 bushels of corn ; 400,000 bushels of oats ; 500,000 bushels of potatoes ; 200,000 tons of hay ; 400,000 pounds of butter, and half as much cheese, together with more than 1,000,000 pounds of wool. Besides the foregoing articles, large quantities of wood, fruit and other commodities are shipped over this road, the local traffic upon which has also been large since the opening of the road, early in 1869.

The Napa Valley railroad is a valuable feeder of the California Pacific road, bringing down and passing over it vast quantities of agricultural products and a very heavy travel.

From the Napa Junction also, a railroad is projected to the Russian River Valley, passing through Sonoma county, now celebrated for its grape culture and wine manufacture, Santa Rosa Valley, producing enormous quantities of wheat, to the fertile and heavily timbered Russian River Valley, thereby diverting to this road a local business which has alone built up the thriving city of Petaluma.

The Central Pacific Railroad, and the Sacramento Valley Railroad from Sacramento, and the Oregon railroad by way of Oroville and Shasta, from Marysville, must also serve as feeders to this route. Each of the former roads are now in operation, the latter being in process of rapid construction.

The California Pacific Railroad Company have a swift and commodious steamer plying between Vallejo and San Francisco in connection with trains upon their road. The branch of their road extending to Marysville is now being built and will be in operation in the course of a few months. The construction of the California and Oregon road, which will be practically a continuation of the California Pacific road, is being pushed ahead with all the energy that has distinguished the Central Pacific Railroad Company, who now have that work in hand.

OUR MINERAL WEALTH.

But not only as regards the superiority of its climate and the wide range of its vegetable productions, but also in the matter of its mineral wealth does California offer strong inducements to immigration. It is true the yield of its placers has been greatly curtailed, yet quartz mining affords excellent opportunities for

the employment of labor and the investment of capital, California is also pre-eminently prolific in the useful metals, between which and the mining for gold and silver it is believed that this branch of industry is on the eve of a more prosperous era than it has ever yet experienced on this coast. Between cheapened labor, improved processes and machinery, greater experience in the business and the extent of the mineral discovery constantly going on, there is everything to warrant this conclusion. The ores are now being raised and reduced with far greater economy than at first, a much larger percentage of the metal being at the same time saved; while explorations are continually being pushed into new regions and almost invariably with success. Among the more recent fields opened up to mining enterprise, is the region embracing south-eastern California and western Arizona, a belt of country abounding in both the useful and precious metals. A most notable discovery of copper and silver ores has lately been made in that quarter, the finder being the indefatigable explorer and prospector, Captain John Moss. The locality of this mine is in the northern part of San Bernardino County, California. The discovery was made in the latter part of July, 1869, since which time some samples of the ore, brought to San Francisco, have by their purity and wonderful richness excited much inquiry as to the character of the deposit and other particulars connected with the locality where they were obtained. The ore belongs to the red oxyd variety, containing a large proportion of native metal and about \$60 to the ton in silver and gold and assaying 80 per cent copper. The lode is one of great dimensions, being clearly traceable by its outcrop for several thousand feet, and carrying at its point of greatest developement a mass of ore thought to be more than 200 feet wide for a linear distance of 800 feet. Along this portion of the vein a concentrated stratum of rich ore, having an average width of 30 feet, is said to exist. If subsequent explorations and a more thorough development of this lode should verify these statements, it will prove one of the most valuable deposits of the kind ever made in this, or perhaps any other country. Numerous veins carrying similar ores exist in this section of country, but none of such magnitude or apparent value as that mentioned. Owing to the highly metalliferous character of the surrounding region, two mining districts have been organized there, the one named the Clark and the other the Yellow Pine District. They are well supplied with wood and water; the country abounding with springs and small streams and being cov-

ered with a scattered growth of balsam, pinon, and the yellow and sugar pine; the trees of the two last mentioned species of pine growing to a large size, some of them being six feet in diameter and cutting up from six to eight saw logs. As a consequence, fuel and lumber of a superior quality must always be cheap and abundant in this region. The soil in many places is excellent, growing the native grasses in the greatest luxuriance and being capable of producing good crops of the cereals and all kinds of fruits, plants and vegetables. The climate is delightful and one of the most salubrious anywhere to be found. During the summer, rain falls about three times a week, tempering the atmosphere and keeping the vegetation from drying up, as happens in most other parts of California. The winters are mild, with but little snow except on the higher mountains. Stock thrives well, requiring neither fodder nor shelter throughout the year.

The country about these mines is inhabited by a small tribe of Indians belonging to the Southern Piute Family. They number only about 200, and are a peaceable and inoffensive race; and being disposed to habits of industry, could easily be made highly serviceable to the whites. They make their camps about the watering places and subsist mainly upon pine nuts, roots, seeds, and such small game as the country affords. The white population, amounting to about 100, are all residents of the Yellow Pine District, there being as yet no permanent settlers in the Clark District.

The principal mine just described, named the "Copper World," from the vast amount of that metal it contains, is situated about 60 miles N. N. W. of Fort Mohave and 40 west from the Colorado River, which stream is navigable for some distance above the mines. The latter are about twenty miles from the main wagon road leading from Los Angeles to Salt Lake, and but a short distance from the line of the railroad now in course of construction from Stockton to the Colorado River by the wealthy and energetic company that built the Central Pacific Railroad. A large force of hands is now employed on that portion of this route extending from Stockton to Visalia, it being the intention of the company, as soon as this division is completed, to push the work forward with a greatly augmented force and all the means at their command. Immense quantities of material for this section of the road have already been accumulated, and it is confidently expected that San Francisco will be put in communication with the navigable waters of the Colorado within the next eighteen months at the farthest,

affording a cheap and expeditious transit of ores from these mines to the sea-board, as well as for getting supplies into that country.

That this road will be pushed forward not only to the Colorado River, but south to the head of the Gulf of California, we are assured by the best authority. The increased facilities for transportation by the completion of that enterprise may be counted upon in estimating the future prospects and value of these mines and the country adjacent. There is now a good natural wagon road from the mines to the Colorado River, supplying, in connection with that stream, means for shipping ores abroad at small expense.

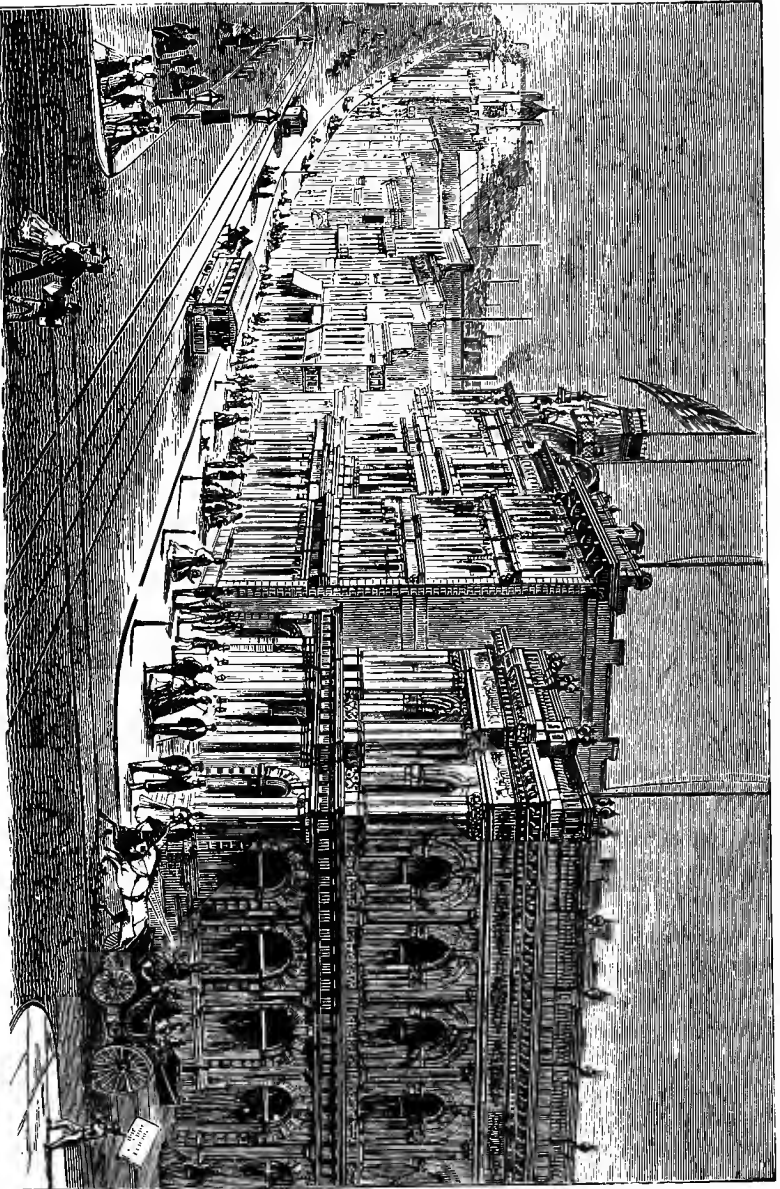
SAN FRANCISCO.

Having thus briefly noticed some of the salient features and more prominent industries of California, it is necessary to say a word of the leading business institutions and improvements of San Francisco, the metropolis of the State and great commercial emporium of the Pacific. But a little more than 20 years old, this city now contains a population of 170,000 souls, while in foreign trade and shipping it ranks third among the seaports of the Union. For the past five or six years this city has grown rapidly, not only extending its area but greatly improving in the style and character of its buildings; many of those recently erected vieing with the finest structures in Eastern cities. Our new Merchant's Exchange, Mercantile Library, the Hayward Building, several of our churches and hotels and various other public edifices compare favorably with similar institutions in other large towns on the Atlantic side of the continent, and are not inferior to those in the leading cities of Europe.

Among our hotels

THE OCCIDENTAL,

as regards capacity, accommodations and management, stands pre-eminent; being not only the most extensive but the most healthful, cheerful and well conducted establishment on the coast. Five stories high, and facing upon three streets, the Occidental is extremely well ventilated and lighted; its broad and easy stairways to the chambers and its spacious halls and corridors imparting to the entire place a grand and palatial appearance. The first section of this house was completed in 1861, since which it has been twice extended according to the original plan; it now having a frontage of 275 feet on Montgomery, 137½ on Bush and 170 on Sutter street. Facing on three great thoroughfares, and located in the very heart of the city, the value of the land it occupied is



NORTH SIDE OF CALIFORNIA STREET, FROM THE BANK OF CALIFORNIA.

very great—not less, perhaps, than \$600,000. The cost of the building, including the enlargement now in progress, will be not less than \$400,000; cost of outfitting and furnishing being about \$250,000, making a total investment of \$1,250,000. This house contains over 400 separate rooms and apartments, having capacity to accommodate nearly 600 guests. The building is one of the best constructed in the city, every precaution having been taken to render it proof against earthquakes and fires, from neither of which has it ever sustained any injury. This property is owned by Joseph A. Donohoe, and the estate of the late James Donahue; the hotel being conducted in the interests of the proprietors.

Among the costly and noteworthy edifices lately completed in San Francisco, the

HARPENDING BUILDINGS,

a magnificent block upon Market street, opposite Sansome, are the most conspicuous. They comprise a row of eight large warehouses, three stories high and 155 feet in length, extending through from Market to Stevenson street, whereby they have each a double frontage. Three stores of similar style adjoin these on the west, making a row of eleven in all, with an aggregate frontage of 350 feet. They all rest on massive foundations, having been built throughout in the most substantial manner. Each store has been furnished with an elevator and all other modern improvements; and being in the vicinity of the new Montgomery street extension, now nearly completed, this block will be likely to form the nucleus of other important improvements, many large and elegant buildings having lately been put up in this portion of the city.

Prominent among the

FISCAL INSTITUTIONS

Of the city and State are the following: The Bank of California, with a paid up capital of \$5,000,000, gold, on which it has paid, for several years past, regular monthly dividends of one per cent, having, at the present time, a reserve fund of nearly one and a half million dollars. Its list of officers and stockholders embrace some of our most wealthy and energetic citizens; the bank, as an institution, having done much towards developing the resources and building up the various industries of the State.

THE LONDON AND SAN FRANCISCO BANK

Has a paid up capital in gold of \$2,500,000 with authority to increase to \$5,000,000 and is deservedly esteemed one of the best managed banking institutions of California, enjoying, in a high degree, the confidence of the community.

There are seven savings and loan societies in San Francisco, the aggregate deposits in which amount to \$25,000,000; the most of which consists of the earnings of mechanics and other classes of working people.

There are ten local insurance companies doing business in the city, besides a large number of foreign agencies. Among these the following are entitled to special mention because of the large amount of business they transact or the reputation they have earned.

THE PACIFIC INSURANCE COMPANY, OF SAN FRANCISCO, through their report for the year ending December 31st, 1869, make the following very favorable exhibit of their condition and transactions up to that time; the estimates, as in all cases mentioned in this work, being on a gold basis.

CAPITAL STOCK.....	\$1,000,000 00
Am't on hand in excess of Capital, available to pay Losses and Dividends..	696,854 80
ASSETS.	
Loans on first mortgages.....	\$562,486 61
Estimated value premises mortgaged.....	\$1,620,250
Estimated value of buildings on same.....	325,600
Value of mortgaged premises.....	1,945,850
Buildings on premises insured for.....	326,300
Loans on collateral.....	494,509 60
The aggregate present market value of collaterals is.....	808,977 00
U. S. bonds, 6 per cent. 5.20's, owned by the company, \$160,000.....	150,000 00
Nevada State bonds—gold.....	50,000 00
Stock of the Capital Savings Bank.....	10,000 00
Cash on hand and in bank—fire and marine premiums uncollected—pre- miums and balances in hands of foreign agents reported, but not paid— interest accrued but not due, and same duo and unpaid.....	279,161 40
State and Federal stamps on hand.....	4,297 19
Real estate, company's property cor. California and Leidersdorf streets...	146,000 00
Total....(Gold).....	\$1,696,854 80
LIABILITIES.	
Losses in process of adjustment.....	\$63,254 00
INCOME.	
Premiums received for fire risks, less re-insurances and cancellations....	\$652,217 40
Premiums received for marine risks, less re-insurances and cancellations..	381,013 62
Interest received from all sources.....	140,025 52
Amount received from rents.....	10,967 00
	\$1,184,223 54
DISBURSEMENTS.	
Amount paid for fire losses.....	\$353,237 26
Amount paid for marine losses.....	241,374 87
Salaries of officers, attorneys and employees.....	56,619 96
Paid for commissions to agents.....	108,765 57
State and Federal taxes.....	42,045 63
Advertising, Stationery, office, agency expenses, and all other payments..	117,550 79
Dividends paid stockholders.....	120,000 00
	\$1,039,594 08
Net amount fire risks written during the year, ending June 30th, 1869.....	\$57,542,288 00
Net amount marine risks written during the year do do do.....	30,234,689 00
Amount fire risks in force June 30, 1869.....	\$37,370,319 00
Amount marine risks in force June 30, 1869.....	3,111,361,00

Among the stockholders of this company, are some of our heaviest capitalists, and most conservative business men, the institution being considered eminently safe and reliable.

THE PACIFIC MUTUAL LIFE INSURANCE CO. OF CALIFORNIA

Is another of our sound and well conducted institutions, having at its head some of the best financial men in the State. With prudent and economical management it has succeeded in gaining the confidence and favor of the public and is now rivaling older companies.

By the laws of California, to guard the policy holder from any possibility of loss, the company could not go into operation without a paid up capital of \$100,000 in gold; and to further protect the interests of both the policy holder and the company, the Legislature provided that all policies issued by this company, should be exempt from execution where the annual premium did not exceed \$500. It said to the poor man, "if by your industry and frugality you will save enough each year to provide for your family by a policy of life insurance, the State will guarantee to you that no one shall deprive your family of its benefits at your death."

The Pacific Mutual Life is not purely a local company, however, and the managers, as fast as possible, are extending its business to the Atlantic and Western States and to Europe; the advantages offered and the high rate of interest received in California for investments, having attracted considerable attention abroad.

As the rates of interest are greater in California than in other States, or Europe, the profits and dividends accruing to the insured will be proportionably increased. The assets of this company at the close of 1869 amounted to nearly \$700,000.

ACCIDENT ASSURANCE.

The business of assurance against accident, though a comparatively new one in this country, has been practiced for years in Europe. The first company having in view the specific object of insuring against bodily injury or accidental death, was established in England, by act of Parliament, in the year 1848. A second one, with similar powers, was established in the following year. From small beginnings, the oldest of these companies has grown in business and extent, till now its capital is £1,000,000.

Although in previous years several charters were obtained, contemplating a similar business, the first company of this description organized and doing a successful business in the United States is the Travelers' Insurance Co. of Hartford, incorporated under a charter granted by the Connecticut Legislature of 1863. It commenced active operations in 1864, having waited to secure some important amendments to its charter by the Legislature of that State. During five years of successful business, it has written 200,000 accident policies, and disbursed more than \$1,000,000 in losses. Its cash assets, July 1st, 1869, amounted to \$1,250,000. Towards the close of 1864, the Travelers established a branch office in San Francisco under the management of Mr. R. H. Magil, and during the past five years, a large and profitable business has been transacted, the completion of the overland railroad by inducing greater travel, having given it a fresh impetus. The present office of the company in this city is at 424 California st. Mr. Arthur E. Magil, manager.

Among the foreign insurance companies making an early advent to California, the Phenix, of Hartford, Conn., deserves especial mention. This company, under the management of Mr. R. H. Magil, has, for the past twelve years, done a large business on this coast, promptly complying, from time to time, with the laws enacted by the State. Associated with the Phenix is the well known Home Insurance Company, of New York. The ability of these companies to carry the heaviest lines is indicated by their assets July 1st, 1869, which then amounted to \$5,817,142. Their aggregate losses paid to insurers on the Pacific Coast have exceeded \$500,000.

The North American Life Insurance Co., incorporated in 1862, with a capital of \$100,000, is now purely *mutual*; the subscription of this capital being at first compulsory in order to comply with the State law, requiring a deposit of that amount with the Insurance Department, has since been retired. The present general agent for the Pacific Coast, Mr. J. A. Eaton, commenced business in San Francisco early in 1865; seven foreign life insurance companies were then doing business in this city, and now there are fifty. Since the establishment of the Pacific branch, claims against the company by the death of persons insured here have amounted to \$113,000, while the premiums paid by the deceased did not exceed \$13,000. All policies issued by this company are guaranteed by the State of New York.

Pacific Insurance Company,

OF SAN FRANCISCO.

Cash Assets in Gold, December 30, 1869, - \$1,696,854.80.

JONATHAN HUNT, President.

WILLIAM ALVORD, Vice President.

A. J. BALSTON, Secretary.

The Directors and Stockholders of this Company are among the leading business men of the Pacific coast and some of the Atlantic cities.

By the laws of the State of California, the Stockholders are made individually liable for the debts of the Company. This feature has always secured the greatest possible care on the part of its officers in conducting the business. Consequently, the actual responsibility of the Company is nearly

THIRTY MILLIONS OF DOLLARS IN GOLD!

The Company has on deposit, in the State of New York,

\$200,000, for extra security of Policy Holders.

Executive and Advisory Committee in New York.

LOUIS McLANE, late Pres't Wells Fargo & Co.
FREDERICK BILLINGS, New York.
A. A. LOW, A. A. Low & Brother.
SETH B. HUNT, Hunt, Tillinghast & Co.
HOWARD POTTER, Brown Brothers & Co.

J. LEES, Lees & Waller.
GEORGE OPDYKE, George Opdyke & Co.
JESSE SELIGMAN, J. & W. Seligman.
J. G. KELLOGG, New York.
MOSES ELLIS, Boston.

ATLANTIC BRANCH.

FRAME, HARE & LOCKWOOD, Gen'l Agents, No. 202 Broadway, New York.

WESTERN BRANCH OFFICE.

CHARLES A. LATON, Gen'l Agent, - - No. 130 La Salle Street, Chicago.

JOHN T. LITTLE,

AGRICULTURAL LAND AND CITY

Real Estate Dealer,

No. 1 STEVENSON'S BUILDING,

S. W. Corner of CALIFORNIA and MONTGOMERY Sts.,

SAN FRANCISCO,

Offers for Sale **200,000 Acres** of **FARMING LANDS**, being the choicest selection from the rich grain and fruit lands of the beautiful San Joaquin Valley, and within four hours of San Francisco by the railroad now being built.

These Lands will be sold to immigrants in quantity from half a section upward, and on liberal credit.

Maps and Plans can be obtained at his Office.

OCCEIDENTAL HOTEL,

SAN FRANCISCO, CAL.

The Occidental Hotel, having been recently re-furnished and improved, is now in complete order in all its appointments.

TRAVELERS will find the accommodations of the Occidental equal to those of the best hotels of the Eastern States and Europe.

THE HOTEL contains four hundred rooms. The bedrooms and private parlors are furnished in the most comfortable manner; they are large, commodious and well ventilated.

THE DINING-ROOM will seat about four hundred persons comfortably, and for elegance, comfort and convenience, will compare favorably with any hotel dining-room in the United States.

THE BILLIARD-ROOM is two hundred feet long by fifty feet wide, contains thirteen Billiard-tables of the newest and most approved patterns.

THE BAR is always plentifully supplied with the choicest Wines and Liquors.

There are connected with this establishment Bath-rooms, Steam Laundry, Barber's Shop, and all the other appointments usually found in a first-class hotel.

J. W. TUCKER & CO.,

101 & 103 MONTGOMERY STREET,

San Francisco.

Importers, Silversmiths and Manufacturers of every description of

JEWELRY & SILVER WARE,

Import all kinds of Precious Stones, Watches and Watch Materials; cut and mount Moss Agate and Gold-bearing Quartz, and sell them for less than they can be obtained elsewhere.

Ship Goods per order to all parts of the United States.

Are sole agents on the Pacific Coast for the World's Fair Gold Medal First Premium Watch, manufactured by Patek, Phillippe & Co., Geneva, Switzerland. These Watches are the best time-keepers known to the trade.

Are also agents for the American Watch Co. of Waltham, Mass., and will fill all orders as well as if sent direct to the factory.

Special attention given to the Repairing of Fine Watches.